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SCHOOL AND SOCIETY

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Volume 48 SATURDAY, DECEMBER 17, 1938 Number 1251

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Entered as second-class matter August 15, 1923, at the Post Office at Lancaster, Pa., under the Act of March 3, 1879

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SCHOOL AND SOCIETY
WITH WHICH ARE COMBINED THE EDUCATIONAL REVIEW, ESTABLISHED IN 1891, THE TEACHERS MAGAZINE, ESTABLISHED IN 1878, AND THE SCHOOL JOURNAL, ESTABLISHED IN 1874.

Volume 48 SATURDAY, DECEMBER 17, 1938 Number 1251

STATISTICS OF REGISTRATION IN AMERICAN UNIVERSITIES AND COLLEGES, 1938

By Dr. RAYMOND WALTERS
PRESIDENT OF THE UNIVERSITY OF CINCINNATI

THANKS to improved economic conditions and to federal aid for needy students, attendance in colleges and universities throughout the United States continues on the upward trend, as shown in reports recently received from 577 approved institutions. They have 822,891 full-time students and a grand total (including part-time and summer-school registration) of 1,259,973. As to full-time students this shows an increase of 6.6 per cent. over the corresponding 1937 enrolment, and as to grand totals an increase of 6.8 per cent.

Every state in the union reports larger collegiate aggregates than last year, with the District of Columbia alone having a diminution in the total of its six institutions. The greatest gain over 1937 is in the West South Central group of states, where Oklahoma and Texas lead, and in the East South Central division, where the leaders are Tennessee and Alabama. In the populous Middle Atlantic states and in New England the increases are more than 3 per cent.

As a special feature, made timely by the Biggers unemployment report to President Roosevelt, a study has been made of the changes in enrolment of women in American colleges and universities. This indicates that the attendance of women students taking liberal arts courses in representative institutions has recently been increasing more rapidly than the attendance of liberal arts men students, but that for the whole decade, 1928 to 1938, the number and ratio of women students have not advanced markedly in comparison with men students.

There is summarized also a symposium by distinguished leaders in the field of women's education respecting collegiate enrolments and their possible bearing on the unemployment factors cited in the Biggers report.

In considering the increase of 6.6 per cent. in the enrolment of full-time students for 1938 over 1937, it is pertinent to know that National Youth Administration payments of an average of $15 monthly for work performed at the institution by undergraduate students and an average of $30 monthly for work by graduate students are based this year "upon a figure equal to 9.3 per cent. of the total number of resident undergraduate and graduate students enrolled in the institution" carrying "at least three fourths of a normal schedule." Last year the percentage was 8 per cent.; in 1936 it was 12 per cent.

STATEMENT OF BASIS OF THIS STUDY

For some years this annual SCHOOL AND SOCIETY study has been based on the list of institutions accredited by the regional associations, as published annually by the American Council on Education. Inasmuch as the council has discontinued such publica-

tion, this 1938 study utilizes the similar compilation prepared by the Council on Medical Education of the American Medical Association. It includes universities and senior colleges approved by the Middle Atlantic States Association of Colleges and Secondary Schools, the North Central Association of Colleges and Secondary Schools, the Northwestern Association of Secondary and Higher Schools, the Southern Association of Colleges and Secondary Schools and the institutional members of the New England Association of Colleges and Secondary Schools. All the universities and senior colleges in the A.M.A. compiled list were invited to report their enrolments; nearly all responded. Of the 577 institutions reporting, about 285 are also on the accepted list of the Association of American Universities, which is a national list.

In Table I the classification is in accordance with the recommendations of a committee of the Assocation of American Colleges, of which the present writer was chairman. There are manifest advantages for comparison in bringing together data of institutions which are alike in organization and purpose. Should there be any misinterpretations in the classifications of Table I, the writer will welcome corrections from the heads of the institutions concerned.

Table II assembles full-time student totals according to the accepted geographical divisions of the United States.

Table III gives figures in detail for 30 universities which have been included for many years in statistical articles in *Science* and later in SCHOOL AND SOCIETY.

Table IV shows comparisons in enrolment for 1937 and 1938 in classified institutions.

Table V presents the 25 states having the largest aggregate enrolments of full-time students.

Table VI gives a list of the 25 largest institutions of the United States reporting in this study.

Table VII presents an analysis of freshman enrolments of 1937 and 1938 in 516 institutions.

Tables VIII, IX and X and two graphs give data and indicate trends representing the attendance of women students in liberal arts courses as compared with men students.

The tables differentiate between the enrolment of full-time and part-time undergraduates. For this series the full-time student is defined as a student who has completed a high-school course and is devoting substantially his full time to study during the collegiate year. The student whose main time and attention are given to some other employment and who takes college and university courses in late afternoon, evening and Saturday classes is listed as a part-time student. The grand-total figures for 1938 include full-time students, part-time students and summer-school students of 1938 (deducting duplicates), but do not include extension and correspondence students, who are, however, recorded in Table III. It is interpreted here that extension and correspondence work is in courses not leading to a degree, whereas "part-time" courses do so count.

SUMMARY AS TO TYPES OF INSTITUTIONS

Numerous boards and administrative officers comment that they find helpful the SCHOOL AND SOCIETY analysis showing attendance trends in respect to types of institutions. The present figures reveal the following: Of the 569 institutions reporting last year and this, 55 universities under public control have 18,686 more full-time students than in 1937, or 7.3 per cent. increase (as compared with 4.3 per cent. increase in this group for 1937 over 1936); 50 universities under private control have 4,009 more full-time students than in 1937, or 2.2 per cent. increase (as compared with 2.7 per cent. for 1937 over 1936); 355 separate colleges of arts and sciences have 10,921 more students, or 5.3 per cent. increase (as compared with 2.2 per cent. increase for

1937 over 1936); 42 technological institutions have 7,180 more full-time students, or 9.7 per cent. increase (as compared with 8.5 per cent. increase for 1937 over 1936); 67 teachers colleges have 9,812 more full-time students, or 17.9 per cent. increase (as compared with 0.9 per cent. increase for 1937 over 1936).

Normal schools and separate junior colleges are not included in this report. The American Association of Junior Colleges reports each January regarding its membership. Last January the total enrolments reported for 1937–38 in 553 junior colleges were 136,623, as compared with total enrolments in 528 junior colleges of 129,106 for 1936–37.

SUMMARY AS TO GEOGRAPHICAL DIVISIONS

An examination of Table II brings out interesting information regarding collegiate attendance and trends in the nine geograph-

TABLE I

I. UNIVERSITIES AND LARGE INSTITUTIONS OF COMPLEX ORGANIZATION
(For both men and women, unless otherwise indicated)

1. UNDER PUBLIC CONTROL

Institution	Students Full-time	Students All Residents	Teaching Staff
C. C. of New York *M*	8,628	23,252	990
Indiana U.	6,007	7,758	361
Louisiana S. U.	7,901	9,831	350
Miami U.	2,931	3,639	187
Michigan S. C.	5,487	6,561	415
Mun. U. of Wichita	1,964	2,409	82
Ohio State U.	13,148	17,106	897
Ohio U.	2,965	4,444	233
Oregon State C.	4,254	4,955	268
Penn State	6,404	9,750	1,440
State C. of Wash.	3,828	4,502	238
State U. of Mont.	1,939	2,701	86
U. of Akron	1,421	3,228	94
U. of Alabama	5,117	6,582	325
U. of Arizona	2,612	3,056	188
U. of Arkansas	2,602	3,309	196
U. of California	24,809	29,727	2,087
U. of Cincinnati	4,309	11,855	647
U. of Colorado	3,891	7,965	381
U. of Delaware	931	1,385	99
U. of Florida	3,311	5,212	197
U. of Georgia	3,379	5,508	202
U. of Idaho	2,788	3,720	200
U. of Illinois	13,872	16,534	1,749
U. of Iowa	5,961	8,662	525
U. of Kansas	4,353	5,253	256
U. of Kentucky	3,326	5,563	293
U. of Louisville	1,732	3,196	300
U. of Maine	1,863	2,470	193
U. of Maryland	3,596	5,308	629
U. of Michigan	11,475	15,332	770
U. of Minnesota	15,148	23,758	872
U. of Mississippi	1,316	1,655	115
U. of Missouri	5,984	8,013	348
U. of Nebraska	6,810	8,625	410
U. of Nevada	1,005	1,225	81
U. of New Hampshire	1,926	2,309	173
U. of New Mexico	1,266	2,203	117
U. of N. Carolina	3,507	5,223	284
U. of N. Dakota	1,726	1,957	138
U. of Oklahoma	6,156	8,173	314
U. of Oregon	3,315	4,054	201
U. of S. Carolina	1,712	2,144	101
U. of S. Dakota	762	1,169	98
U. of Tennessee	4,163	6,091	292
U. of Texas	9,776	16,669	518
U. of Toledo	1,791	2,942	133
U. of Utah	3,916	5,174	192
U. of Vermont	1,431	2,289	220
U. of Virginia *M*	2,786	3,909	329
U. of Washington	10,393	14,319	762
U. of Wisconsin	11,438	15,054	568
U. of Wyoming	1,968	2,797	160
Wayne U.	5,468	12,159	711
West Virginia U.	2,784	3,766	240
Totals	273,291	396,450	22,255

2. UNDER PRIVATE CONTROL

Institution	Students Full-time	Students All Residents	Teaching Staff
Boston C. *M*	2,129	3,319	257
Boston U.	6,470	11,319	593
Brigham Young U.	2,215	2,967	124
Brown U.	1,577	1,713	169
Catholic U. of America	1,487	3,292	275
Clark U., Mass.	341	559	44
Columbia U.	14,980	28,446	3,325
Cornell U.	6,890	8,595	1,020
Creighton U.	1,418	1,949	221
Dartmouth *M*	2,473	2,473	258
De Paul *M*	2,431	5,866	198
Drake U.	1,277	1,982	100
Duke U.	3,376	6,115	386
Emory U.	1,253	1,905	254
Fordham U. *M*	3,534	7,407	404
Georgetown U. *M*	1,633	2,390	485
George Washington	1,566	6,404	340
Harvard *M*	8,583	11,137	1,956
Howard U.	1,293	2,059	247
Johns Hopkins	2,041	5,780	674
Lehigh *M*	1,853	2,139	179
Loyola, Ill.	3,746	4,718	710
Loyola, La.	957	2,214	145
Marquette	3,369	4,460	385
New York U.	14,257	38,744	2,096
Northwestern	5,933	18,397	816
Princeton *M*	2,691	2,691	315
Rice Inst.	1,368	1,368	91
Rutgers	3,210	4,082	325
St. John's U., N. Y.	5,920	7,604	317
St. Louis U.	3,557	6,811	777
Southern Methodist U.	1,754	3,551	164
Stanford	4,135	4,759	679
Syracuse	6,264	8,256	557
Temple	5,826	9,255	745
Tulane	2,931	4,816	476
U. of Buffalo	1,610	4,791	510
U. of Chicago	6,212	10,646	822
U. of Denver	1,863	4,277	257
U. of Detroit	1,859	3,905	189
U. of Notre Dame *M*	3,114	4,063	223
U. of Pennsylvania	7,151	14,590	1,530
U. of Pittsburgh	6,199	11,741	986
U. of Richmond	1,098	1,636	85
U. of Rochester	2,326	3,128	407
U. of Southern California	5,043	15,487	583
Vanderbilt	1,740	1,740	368
Washington	3,212	4,138	450
Western Reserve	3,106	10,224	723
Yale	5,298	5,298	684
Totals	184,569	335,206	27,924

TABLE I—(*Continued*)

II. COLLEGES OF ARTS AND SCIENCES

(For men and women, and privately controlled unless otherwise indicated. *Pub.* = Publicly controlled. *M* = Men. *W* = Women)

Institution	Students Full-time	Students All Residents	Teaching Staff
Adelphi *W*	419	437	47
Agnes Scott *W*	480	481	45
Alabama C. *Pub. W.*	859	1,333	98
Albany	273	273	30
Albertus Magnus *W*	173	369	31
Albion	779	791	45
Albright	380	598	31
Alfred U.	629	754	64
Allegheny	638	771	49
Alma	381	404	27
American Int.	523	553	29
American U.	447	1,906	115
Amherst	872	885	80
Antioch	731	745	59
Arkansas S. C. *Pub.*	591	1,267	39
Augustana, Ill.	628	970	52
Augustana, S. D.	412	564	31
Aurora	159	193	17
Baker U.	349	360	29
Baldwin-Wallace	615	723	53
Bates	698	874	46
Baylor U.	2,129	2,572	97
Beloit	591	593	48
Bennington *W*	281	281	47
Berea	811	877	60
Bethany, Kans.	282	360	35
Bethany, W. Va.	379	387	33
Bethel	314	437	30
Birmingham-Southern	926	1,379	52
Blue Mountain	307	474	27
Bowdoin *M*	641	641	54
Bowling Green *Pub.*	1,252	2,551	78
Bradley Polytech. In.	800	1,094	64
Brenau *W*	381	436	40
Bridgewater	266	266	29
Brooklyn C. *Pub.*	6,032	12,882	553
Bryn Mawr *W*	525	590	100
Bucknell U.	1,294	1,669	77
Butler U.	1,506	3,948	137
Calvin	423	432	22
Canisius *M*	737	1,504	59
Capital U.	748	903	74
Carleton	859	878	66
Carroll, Mont. *M*	96	98	13
Carroll, Wis.	568	613	32
Carson-Newman	435	577	25
Carthage	267	313	26
Catawba	448	848	60
Centenary	576	849	40
Central	647	736	41
Central Y. M. C. A.	671	2,532	81
Centre	341	368	28
Chapman	260	271	22
Citadel *Pub. M*	1,072	1,072	71
Clarke C. *W*	301	553	49
Coe	746	860	53
Coker *W*	236	241	26
Colby	669	669	52
Colgate *M*	1,071	1,071	106
C. of Charleston *Pub.*	361	577	21
C. of Chestnut Hill, *W*	262	559	48
C. of Emporia	331	331	25
C. of Idaho	370	442	30
C. of Medical Evangelists.	353	353	350
C. of Misericordia *W*	247	636	38
C. of Mt. St. Vincent *W*	477	633	42
C. of New Rochelle *W*	728	738	46
C. of Notre Dame *W*	211	314	28
C. of Puget Sound	543	800	42
C. of St. Benedict *W*	237	501	35
C. of St. Catherine *W*	623	902	57
C. of St. Elizabeth *W*	405	776	43
C. of St. Mary-of-the Wasatch *W*	95	170	17
C. of St. Rose *W*	331	536	32
C. of St. Teresa *W*	354	711	50
C. of St. Thomas *M*	700	721	49
C. of the Holy Names *W.*	320	551	26
C. of the Pacific	297	726	68
C. of the Sacred Heart *W*	366	561	37
C. of Wooster	988	1,011	71
Colorado C.	704	873	61
Columbia C., Ia. *M*	415	931	34
Concordia	495	502	40
Connecticut C. *W.*	741	777	74
Connecticut S. C. *Pub.*	1,040	1,187	107
Converse *W*	375	403	39
Cornell C. of Ia.	609	721	46
Culver-Stockton	223	289	22
Dakota-Wesleyan	386	393	35
Davidson *M*	664	704	46
Denison U.	873	887	62
De Pauw	1,373	1,393	88
Dickinson	587	588	32
Doane	249	251	26
Drew U.	351	396	46
Drury	363	373	33
Duquesne U.	1,320	3,823	168
D'Youville *W*	327	327	31
Earlham	401	428	42
Elmhurst	353	365	30
Elmira *W*	355	362	50
Emmanuel *W*	478	478	53
Emory & Henry	309	376	18
Erskine	367	367	26
Evansville C.	365	691	30
Fisk U.	438	634	46
Florida Southern	550	980	52
Florida S. C. for *W. Pub.*	1,766	2,471	134
Franklin C. of Ind.	346	371	28
Franklin & Marshall *M.*	885	898	42
Fresno S. C. *Pub.*	1,802	2,167	112
Friends U.	333	519	34
Furman U.	899	1,122	63
Geneva	570	911	37
Georgetown	329	612	27
Georgia S. C. for *W. Pub.*	1,495	2,688	103
Georgia S. W's C. *Pub.*	331	371	24
Georgian Court *W*	152	301	27
Gettysburg *M*	661	701	44
Gonzaga U. *M*	854	1,228	97
Good Counsel	217	217	33
Goucher *W*	632	643	72
Greensboro *W*	348	348	27
Grinnell	744	760	69
Grove City C.	911	992	48
Guilford	352	382	23
Gustavus Adolphus	517	520	29
Hamilton *M*	444	446	43
Hamline U.	645	653	46
Hampden-Sydney *M*	351	351	20
Hanover	354	354	22
Hardin-Simmons U.	618	1,014	41
Hastings	569	715	44
Haverford *M*	327	327	45
Heidelberg	315	318	32
Hendrix	376	379	35

TABLE I—(*Continued*)

Institution	Students Full-time	Students All Residents	Teaching Staff
Hillsdale	367	401	35
Hiram	368	369	28
Hobart *M*	375	381	41
Hollins *W*	317	317	37
Holy Cross *M*	1,237	1,237	81
Hood *W*	440	468	48
Hope	503	503	30
Houghton	410	422	32
Howard C.	590	1,153	51
Hunter C. *Pub. W.*	7,000	12,205	623
Huntingdon C. *W*	299	426	33
Illinois C.	377	384	26
Illinois Wesleyan	694	866	53
Immaculata *W*	261	500	35
Immaculate Heart *W*	494	596	34
Incarnate Word *W*	423	862	43
Iowa Wesleyan	225	292	20
James Millikin U.	547	609	45
Jamestown	349	365	29
John B. Stetson U.	758	1,014	66
John Carroll U. *M*	560	739	46
Judson *W*	244	254	29
Juniata	454	531	45
Kalamazoo	360	363	28
Kent State U. *Pub.*	2,409	4,224	134
Kenyon *M*	308	309	35
Keuka *W*	210	211	25
Knox	622	624	57
Lafayette *M*	940	940	97
Lake Erie *W*	170	170	27
Lake Forest	364	369	27
La Salle C. *M*	389	451	31
Lawrence	705	710	106
Lebanon Valley	407	535	36
Lenoir-Rhyne	521	964	26
Limestone *W*	311	426	25
Lincoln Memorial U.	427	552	24
Lincoln U., Mo.	414	614	38
Lincoln U., Pa. *M*	330	330	24
Lindenwood *W*	453	454	43
Linfield	547	550	39
Loretto Heights *W*	109	243	26
Louisiana C.	374	504	21
Loyola C., Md. *M*	332	332	20
Loyola U., Cal. *M*	649	649	51
Luther	439	467	31
Lynchburg	270	326	22
Macalester	655	666	45
MacMurray C. *W*	562	690	37
Manchester	678	1,185	42
Manhattan *M*	1,292	1,317	80
Marietta	389	413	31
Marshall *Pub.*	1,580	2,677	93
Mary Baldwin *W*	312	320	27
Marygrove *W*	534	1,332	59
Mary Hardin-Baylor	361	510	47
Marylhurst *W*	159	256	24
Marymount, Kans. *W*	128	316	27
Marymount, N. Y. *W*	197	197	37
Maryville, Tenn.	777	780	46
Marywood *W*	442	882	40
Mercer U.	475	730	25
Mercyhurst *W*	190	325	32
Meredith *W*	532	562	45
Middlebury	790	1,441	62
Mills *W*	593	837	95
Millsaps	562	709	27
Milwaukee-Downer	305	324	49
Mississippi C.	348	526	22
Mississippi S. C. for *W. Pub.*	1,054	1,074	75
Missouri Valley	254	309	21
Monmouth	600	641	37
Moravian *M*	189	218	20
Morgan	436	899	36
Morningside	500	640	40
Mount Angel *W*	145	298	15
Mount Holyoke *W*	1,020	1,035	116
Mount Mary *W*	430	1,297	78
Mount Mercy *W*	232	606	32
Mount St. Mary's, Cal. *W*	268	583	32
Mount St. Mary's, Md. *M*	287	344	28
Mount St. Scholastica *W*	240	595	26
Mount Union	532	623	40
Muhlenberg *M*	501	716	32
Muskingum	688	1,112	56
Nazareth, N. Y. *W*	230	307	33
Nebraska Wesleyan	394	518	46
Newberry	369	631	26
Newcomb *W*	658	672	66
N. Y. S. C. for Teachers	1,379	2,770	90
Niagara U. *M*	1,195	1,195	93
North Central	561	579	40
Norwich U.	362	362	27
Notre Dame, O. *W*	154	154	33
Oberlin	1,781	1,895	166
Occidental	714	743	68
Ohio Wesleyan U.	1,414	1,414	97
Oklahoma C. for *W. Pub.*	915	1,022	59
Ottawa U.	291	336	25
Otterbein	351	375	31
Our Lady of the Lake *W*	243	957	52
Pacific U.	317	325	24
Park	525	529	39
Parsons	244	332	24
Pembroke *W*	483	489	129
Pennsylvania C. for *W*	289	308	34
Phillips U.	407	751	35
Pomona	780	812	77
Principia	310	311	25
Providence *M*	790	1,001	65
Queens-Chicora *W*	423	423	32
Radcliffe *W*	906	1,041	400
Randolph-Macon *M*	314	314	18
Randolph-Macon *W*	656	677	69
Reed	473	559	42
Regis *W*	416	657	46
Ripon	414	423	32
Roanoke *M*	359	477	23
Rockford *W*	271	443	38
Rollins	391	399	68
Rosary *W*	477	1,004	55
Rosemont *W*	235	300	38
Russell Sage *W*	676	689	69
St. Ambrose, *M*	500	906	42
St. Benedict's *M*	306	306	31
St. Bonaventure *M*	484	890	53
St. Joseph's, Md. *W*	181	183	38
St. Joseph's, N. Y., *W*	431	431	47
St. Joseph's, Pa. *M*	520	520	33
St. Lawrence U.	1,672	1,859	85
St. Mary of the Springs *W*	184	434	27
St. Mary of the Woods *W*	263	999	37
St. Mary's, Minn. *M*	318	344	27
St. Mary's of Notre Dame *W*	337	593	50
St. Norbert	303	740	24

TABLE I—(*Continued*)

Institution	Students Full-time	Students All Residents	Teaching Staff
St. Olaf	1,085	1,096	75
St. Peter's *M*	400	400	29
St. Vincent *M*	392	811	58
St. Xavier, Ill. *W*	184	353	25
Salem, N. C. *W*	309	319	45
San Francisco S. C. *Pub.*	1,866	3,454	81
Sarah Lawrence *W*	279	281	59
Scripps *W*	209	209	27
Seattle	1,005	1,330	92
Seattle Pacific	318	373	24
Seton Hall *M*	532	1,032	90
Seton Hill *W*	398	679	47
Shorter *W*	215	248	28
Simmons C. *W*	1,443	1,602	154
Simpson	447	581	32
Sioux Falls	214	352	25
Skidmore *W*	758	765	76
Smith *W*	2,123	2,123	227
Southwestern, Kans.	444	543	40
Southwestern, Tenn.	424	479	33
Southwest. La. Inst. *Pub.*	1,717	2,529	80
Southwestern U.	386	499	33
Spring Hill *M*	332	691	35
Susquehanna U.	323	380	34
Swarthmore	678	678	96
Sweet Briar *W*	449	449	51
Tarkio	193	229	19
Texas Christian U.	1,245	1,875	70
Texas S. C. for *W. Pub.*	2,689	3,865	157
The St. Mary *W*	206	588	36
Thiel	231	235	23
Transylvania	497	636	29
Trinity, Conn. *M*	539	1,033	53
Trinity, D. C. *W*	350	350	55
Trinity U.	313	437	29
Tufts	2,144	2,144	521
Tusculum	270	273	20
Union, Ky.	283	576	19
Union, Neb.	410	458	33
Union U., N. Y. *M*	836	917	80
U. of Chattanooga	605	846	30
U. of Dayton	703	1,350	74
U. of Portland	669	669	36
U. of Redlands	650	825	52
U. of San Francisco *M.*	708	840	61
U. of Santa Clara *M*	519	519	52
U. of Scranton *M*	578	1,115	36
U. of the South *M*	256	281	24
U. of Tulsa	850	1,550	82
Upsala	368	413	31
Ursinus	554	554	45
Ursuline *W*	184	184	32
Valparaiso U.	478	569	43
Vassar *W*	1,233	1,248	167
Villa Maria *W*	215	397	32
Villanova *M*	924	2,649	134
Va. Mil. Inst. *Pub. M*	712	712	53
Wabash *M*	427	434	30
Wagner	250	273	22
Wake Forest *M*	969	1,718	55
Washburn	626	792	69
Washington C.	332	334	24
Washington & Jefferson *M*	552	623	36
Washington & Lee *M*	949	949	60
Webster	158	345	39
Wellesley *W*	1,526	1,526	170
Wells *W*	313	313	44
Wesleyan C. *W*	265	266	31
Wesleyan U. *M*	761	767	77
Western C. *W*	314	314	41
Western Maryland	568	896	56
Westminster, Mo. *M*	312	313	18
Westminster, Pa.	648	656	45
W. Va. State C. *Pub.*	702	965	41
Wheaton, Ill.	1,048	1,290	79
Wheaton, Mass. *W*	474	474	63
Whitman	569	571	43
Whittier	595	760	41
Whitworth	187	232	24
Willamette U.	791	829	54
William Jewell	431	495	25
William & Mary	1,256	1,805	94
William Smith *W*	161	164	50
Williams *M*	825	826	86
Wilson *W*	392	392	47
Winthrop *Pub. W*	1,630	1,985	84
Wittenberg	892	1,543	77
Wofford *M*	473	593	23
Woman's C., U. N. C. *Pub.*	2,041	2,684	155
Yankton	321	361	37
Xavier, Ohio *M*	493	1,453	60
Totals	217,225	298,032	20,048

TABLE I—(*Continued*)

III. INDEPENDENT TECHNICAL INSTITUTIONS

1. TECHNOLOGICAL INSTITUTIONS

Institution	Students Full-time	Students All Residents	Teaching Staff
A. & M. C. of Texas *Pub.*	5,477	6,428	357
Alabama Polytech. Inst. *Pub.*	2,936	3,013	160
Armour Inst. of Tech.	1,305	2,379	156
California Inst. Tech. *M*	839	872	255
Carnegie Tech.	2,331	5,492	390
Case S. of Ap. Science *M*	942	1,544	94
Clarkson C. of Tech. *M*	508	508	32
Clemson Ag. C. *Pub. M*	2,071	2,465	142
Colorado S. C. of A. & M. Arts *Pub.*	1,692	2,942	150
Colorado S. of Mines *Pub. M*	778	798	61
Drexel Inst.	1,744	1,995	124
Georgia S. of Tech. *Pub. M*	2,451	2,583	158
Int. Y. M. C. A.	519	710	42
Iowa S. A. & M. *Pub.*	5,979	7,238	409
Kansas S. C. of Ag. *Pub.*	3,923	4,539	336
Louisiana Polytech. Inst. *Pub.*	1,773	2,264	91
Mass. Inst. of Tech. *M*	3,093	4,396	516
Massachusetts S. C. *Pub.*	1,298	1,404	143
Michigan C. of M. & Tech. *Pub.*	805	805	75
Mississippi S. C. *Pub.*	2,036	2,578	121
Montana S. of Mines *Pub.*	352	352	19
Montana S. C. *Pub.*	1,513	1,592	102
Newark C. of Eng.	661	802	75
New Mex. C. of A. & M. Arts *Pub.*	962	1,220	80
N. Car. S. C. of Ag. & Eng. *Pub.*	2,156	2,337	195
Oklahoma A. & M. *Pub.*	5,420	7,073	314
Polytech. Inst. of Brooklyn *M*	552	2,644	135
Purdue *Pub.*	6,440	7,596	405
Rensselaer Polytech. Inst. *M*	1,463	1,471	150
Rhode Island S. C. *Pub.*	1,207	1,218	96
Rose Polytech. Inst. *M*	242	246	27
S. Dak. S. C. of Ag. & M. Arts *Pub.*	1,221	1,331	113
S. Dak. S. S. of Mines *Pub.*	407	407	28
Stevens Inst. of Tech. *M*	558	558	65
Texas C. of A. & Ind. *Pub.*	936	1,659	60
Texas C. of Mines & Met.	962	1,127	50
Texas Tech. C. *Pub.*	3,460	4,716	171
U. S. Military Acad. *Pub. M*	1,819	1,819	224
U. S. Naval Acad. *Pub. M*	2,310	2,310	289
Utah S. Ag. C. *Pub.*	2,558	3,280	135
Va. Polytech. Inst. *Pub.*	2,682	2,911	195
Worcester Polytech Inst. *M*	687	687	71
Totals	81,068	102,309	6,811

TABLE I—(*Continued*)

III. INDEPENDENT TECHNICAL INSTITUTIONS

2. TEACHERS COLLEGES

Institution	Students Full-time	Students All Residents	Teaching Staff
Alabama S. T. C., Florence, *Pub.*	479	975	30
Alabama S. T. C., Jacksonville, *Pub.*	582	1,768	42
Alabama S. T. C., Troy, *Pub.*	351	713	25
Arizona S. T. C., Tempe, *Pub.*	1,226	1,638	72
Arkansas S. T. C., *Pub.*	610	1,469	38
Ball State T. C., *Pub.*	1,288	2,567	73
Colorado S. C. of Ed., *Pub.*	1,486	4,216	95
Concord S. T. C., *Pub.*	556	1,160	34
Delta S. T. C., *Pub.*	297	435	30
East Carolina T. C., *Pub.*	1,157	2,003	57
Fort Hays, Kans. S. C., *Pub.*	885	1,797	65
George Peabody C. for T.	682	3,129	84
Georgia S. T. C. South, *Pub.*	578	1,442	45
Harris T. C., *Pub.*	300	300	27
Henderson S. T. C., *Pub.*	580	987	33
Ill. S. N. U., Carbondale, *Pub.*	1,833	3,087	121
Ill. S. N. U., Normal, *Pub.*	1,963	3,287	186
Ill. S. T. C., Eastern, *Pub.*	1,037	1,927	85
Ill. S. T. C., Northern, *Pub.*	942	1,443	74
Ill. S. T. C., Western, *Pub.*	937	2,292	76
Indiana S. T. C. *Pub.*	1,490	2,718	112
Iowa S. T. C. *Pub.*	1,898	3,382	162
Kansas S. T. C., Emporia, *Pub.*	1,573	3,076	125
Kansas S. T. C., Pittsburgh, *Pub.*	1,282	2,589	108
Kentucky S. T. C., Eastern, *Pub.*	924	1,857	77
Kentucky S. T. C., Western, *Pub.*	1,378	3,361	106
Louisiana S. N. C. *Pub.*	1,527	2,662	91
Michigan S. N. C. *Pub.*	1,863	3,065	183
Michigan S. T. C., Central, *Pub.*	1,264	2,449	82
Michigan S. T. C., North, *Pub.*	654	1,052	53
Michigan S. T. C., West, *Pub.*	2,285	3,403	201
Mississippi S. T. C., Hattiesburg, *Pub.*	540	1,346	51
Missouri S. T. C., Central, *Pub.*	1,064	2,484	66
Missouri S. T. C., Northeast, *Pub.*	855	2,091	55
Missouri S. T. C., Northwest, *Pub.*	930	1,672	55
Missouri S. T. C., Southwest, *Pub.*	1,385	3,185	70
Montana S. N. C. *Pub.*	262	460	26
Morehead S. T. C., *Pub.*	543	1,133	57
Murray S. T. C., *Pub.*	867	1,178	52
Nebraska S. T. C., Chadron, *Pub.*	437	852	46
Nebraska S. T. C., Kearney, *Pub.*	763	1,791	60
Nebraska S. T. C., Peru, *Pub.*	508	977	47
Nebraska S. T. C., Wayne, *Pub.*	790	1,533	53
N. J. S. T. C., *Pub.*	823	1,146	65
Sam Houston S. T. C., *Pub.*	1,047	2,139	60
San Diego S. C. *Pub.*	2,151	2,493	64
Stephen F. Austin S. T. C., *Pub.*	747	1,703	58
Stout Inst.	616	1,060	49
Sul Ross S. T. C., *Pub.*	320	910	26
Tenn. S. T. C., Johnson City, *Pub.*	604	1,274	42
Tenn. S. T. C., Memphis, *Pub.*	756	1,105	35
Tenn. S. T. C., Murfreesboro, *Pub.*	709	709	38
Texas S. T. C., East, *Pub.*	1,502	3,140	103
Texas S. T. C., North, *Pub.*	2,395	4,943	110
Texas S. T. C., Southwest, *Pub.*	1,257	3,175	61
Texas S. T. C., West, *Pub.*	1,021	2,009	70
Va. S. T. C., Farmville, *Pub.*	847	1,198	50
Va. S. T. C., Fredericksburg, *Pub.*	1,164	1,584	46
Va. S. T. C., Radford, *Pub.*	479	1,150	46
Wash. C. of Ed., Ellensburg, *Pub.*	686	1,121	50
Wash. C. of Ed., Bellingham, *Pub.*	898	1,803	58
Wash. S. N. S., Cheney, *Pub.*	888	1,730	51
Western S. C. of Colo., *Pub.*	378	791	27
Wisc. S. T. C., La Crosse, *Pub.*	782	1,153	50
Wisc. S. T. C., Milwaukee, *Pub.*	1,452	2,819	93
Wisc. S. T. C., Oshkosh, *Pub.*	793	1,483	50
Wisc. S. T. C., River Falls, *Pub.*	717	1,027	41
Wisc. S. T. C., Superior, *Pub.*	855	1,360	57
Totals	66,738	127,976	4,630

ical divisions of the United States. As compared with figures of a year ago the West South Central group of states once more has the largest gain in full-time attendance, 11.38 per cent., with other leaders as follows: East South Central division, 9.37 per cent.; East North Central division, 7.37 per cent.; West North Central division, 7.11 per cent.; Pacific division, 6.99 per cent.

The leadership in percentage increase of the West South Central states (11.38) is based on 77,350 full-time students who are attending 42 approved institutions in the states (given in order of percentage increases) of Oklahoma, Texas, Louisiana and Arkansas.

Second in percentage of increase is the East South Central division (9.37) by virtue of a combined enrolment of 42,492 full-time students in 44 approved institutions, with

the states in order of percentage increase as follows: Tennessee, Alabama, Kentucky and Mississippi.

Third comes the East North Central Division with 7.37 per cent., produced by the 1938 full-time enrolments of 180,530 students in 110 approved colleges and universities. The states in order of percentage increases are: Michigan, Indiana, Wisconsin, Ohio and Illinois.

The West North Central division ranks fifth on this basis with 7.11 per cent. There are 99,097 full-time students in 82 approved institutions in the states: Minnesota, Iowa,

TABLE II

GEOGRAPHICAL DIVISION SUMMARY

Division and state	Institutions	Full time students		Per cent. change, 1937 to 1938
		1937	1938	
(1) *New England*	**41**	**58,997**	**60,850**	**+ 3.14**
Maine	4	3,647	3,871	+ 6.14
New Hampshire	2	4,198	4,399	+ 4.79
Vermont	4	2,689	2,864	+ 6.51
Massachusetts	21	36,204	37,107	+ 2.49
Rhode Island	4	4,049	4,057	+ 0.20
Connecticut	6	8,210	8,552	+ 4.16
(2) *Middle Atlantic*	**102**	**155,736**	**161,643**	**+ 3.76**
New York	46	97,037	100,265	+ 3.33
New Jersey	10	9,494	9,999	+ 5.32
Pennsylvania	46	49,255	51,379	+ 4.31
(3) *East North Central*	**110**	**168,132**	**180,530**	**+ 7.37**
Ohio	33	45,419	48,029	+ 5.75
Indiana	17	22,933	25,109	+ 9.49
Illinois	29	47,246	49,547	+ 4.87
Michigan	16	30,912	34,507	+ 11.63
Wisconsin	15	21,622	23,338	+ 7.94
(4) *West North Central*	**82**	**92,520**	**99,097**	**+ 7.11**
Minnesota	12	19,699	21,636	+ 9.83
Iowa	15	18,476	20,225	+ 9.47
Missouri	19	20,305	21,260	+ 4.70
North Dakota	2	1,981	2,075	+ 4.74
South Dakota	7	3,435	3,723	+ 8.38
Nebraska	9	11,764	12,348	+ 4.96
Kansas	18	16,860	17,830	+ 5.75
(5) *South Atlantic*	**84**	**81,611**	**85,408**	**+ 4.65**
Delaware	1	818	931	+ 13.81
Maryland	11	11,051	11,366	+ 2.85
District of Columbia	6	7,693	6,776	+ 11.92
Virginia	19	14,338	15,576	+ 8.63
West Virginia	5	5,593	6,001	+ 7.29
North Carolina	14	15,957	16,803	+ 5.30
South Carolina	12	9,166	9,876	+ 7.75
Georgia	11	10,559	11,303	+ 7.05
Florida	5	6,436	6,776	+ 5.28
(6) *East South Central*	**44**	**38,850**	**42,492**	**+ 9.37**
Kentucky	11	10,279	11,031	+ 7.32
Tennessee	14	10,609	12,286	+ 15.81
Alabama	11	11,783	12,715	+ 7.91
Mississippi	8	6,179	6,460	+ 4.55
(7) *West South Central*	**42**	**69,449**	**77,350**	**+ 11.38**
Arkansas	5	4,428	4,759	+ 7.48
Louisiana	9	16,884	18,414	+ 9.06
Oklahoma	5	11,791	13,748	+ 16.60
Texas	23	36,346	40,429	+ 11.23
(8) *Mountain*	**25**	**33,929**	**36,044**	**+ 6.23**
Montana	5	3,925	4,162	+ 6.04
Idaho	2	3,118	3,158	+ 1.28
Wyoming	1	1,840	1,968	+ 6.96
Colorado	8	10,474	10,901	+ 4.08
New Mexico	2	1,999	2,228	+ 11.46
Arizona	2	3,277	3,838	+ 17.12
Utah	4	8,294	8,784	+ 5.91
Nevada	1	1,002	1,005	+ 0.30
(9) *Pacific*	**37**	**69,531**	**74,392**	**+ 6.99**
Washington	8	16,840	18,123	+ 7.62
Oregon	9	9,864	10,626	+ 7.72
California	20	42,827	45,643	+ 6.58

South Dakota, Kansas, Nebraska, North Dakota and Missouri.

The Pacific group of three coast states follows sixth with an increase of 6.99 per cent. in 37 approved institutions having 74,392 full-time students. In order of increase: Oregon, Washington and California.

The Mountain states have 36,044 full-time students in 25 approved institutions, a gain of 6.23 per cent. over 1937. The states: Arizona, New Mexico, Wyoming, Montana, Utah, Colorado, Idaho and Nevada.

The South Atlantic division has 85,408 full-time students in 84 approved colleges and universities, an increase over last year of 4.65 per cent. The states in order of increase: Delaware, Virginia, South Carolina, West Virginia, Georgia, North Carolina, Florida and Maryland. The District of Columbia has a decrease.

The very populous Middle Atlantic states have 161,643 full-time students in 102 approved institutions, an increase of 3.76 per cent. New Jersey is first in gains, followed by Pennsylvania and New York.

In New England the increase is 3.14 per cent. over 1937, with 60,850 full-time students in 41 approved colleges and universities. In order of percentage increases the states are: Vermont, Maine, New Hampshire, Connecticut, Massachusetts and Rhode Island.

Analysis by States

Table II is drawn on for an analysis of states in respect to total population and collegiate population. The four largest states are seen to have similarly the largest aggregate enrolments of full-time students. After these there are interesting variations. In the list which follows of the twenty-five states having the largest totals for 1938 the figure in parentheses shows the rank of the state in total population according to the 1930 U. S. Census:

1. (1) New York, 46 approved institutions report 100,265 full-time students in attendance this year; 2. (2) Pennsylvania, 46 institutions, 51,379 students; 3. (3) Illinois, 29 institutions, 49,547 students; 4. (4) Ohio, 33 institutions, 48,029 students; 5. (6) California, 20 institutions, 45,643 students; 6. (5) Texas, 23 institutions, 40,492 students; 7. (8) Massachusetts, 21 institutions, 37,107 students; 8. (7) Michigan, 16 institutions, 34,507 students; 9. (11) Indiana, 17 institutions, 25,109 students; 10. (13) Wisconsin, 15 institutions, 23,338 students; 11. (18) Minnesota, 12 institutions, 21,636 students; 12. (10) Missouri, 19 institutions, 21,260 students; 13. (19) Iowa, 15 institutions, 20,225 students; 14. (22) Louisiana, 9 institutions, 18,414 students; 15. (30) Washington, 8 institutions, 18,123 students; 16. (12) Kansas, 18 institutions, 17,830 students; 17. (12) North Carolina, 14 institutions, 16,803 students; 18. (20) Virginia, 19 institutions, 15,576 students; 19. (21) Oklahoma, 5 institutions, 13,748 students; 20. (15) Alabama, 11 institutions, 12,715 students; 21. (32) Nebraska, 9 institutions, 12,348 students; 22. (16) Tennessee, 14 institutions, 12,286 students; 23. (28) Maryland, 11 institutions, 11,366 students; 24. (14) Georgia, 11 institutions, 11,303 students; 25. (17) Kentucky, 11 institutions, 11,031 students.

Classifying states as to those which show the largest percentage of increases in full-time enrolment in approved institutions for 1938 over 1937, we find the list to be as follows:

1. Arizona, 17.12 per cent. increase in full-time collegiate attendance. 2. Oklahoma, 16.60 per cent. increase. 3. Tennessee, 15.81 per cent. increase. 4. Delaware, 13.81 per cent. increase. 5. Michigan, 11.63 per cent. increase. 6. New Mexico, 11.46 per cent. 7. Texas, 11.23 per cent. 8. Minnesota, 9.83 per cent. 9. Indiana, 9.49 per cent. 10. Iowa, 9.47 per cent. 11. Louisiana, 9.06 per cent. 12. Virginia, 8.63 per cent. 13. South Dakota, 8.38 per cent. 14. Wisconsin, 7.94 per cent. 16. South Carolina, 7.75 per cent. 17. Oregon, 7.72 per cent. 18. Washington, 7.62 per cent. 19. Arkansas, 7.48 per cent. 20. West Virginia, 7.29 per cent. 21. Georgia, 7.05 per cent. 22. Wyoming, 6.96 per cent. 23. California, 6.58 per cent. 24. Vermont, 6.51 per cent. 25. Maine, 6.14 per cent.

Current Trends in Enrolment

In ascertaining trends in enrolment as to fields of study, probably the most significant indication is that of the choices which freshmen—and their parents—make. These choices represent more immediate popular

TABLE III

	California	Chicago	Cincinnati	Columbia	Cornell	Harvard	Illinois	Indiana	Iowa	Johns Hopkins	Kansas	Michigan	Minnesota
College men	6340	1660	586	1895	1232	3864	2263	1413	1868	474	1326	2717	2582
College women	6755	1056	434	917	618	....	1610	1013	1219	....	925	1723	2124
Engineering	2828	....	1448	286	1104	162	2466	....	421	351	648	2059	2066
Law	493	235	88	500	186	1420	299	135	242	....	105	605	335
Medicine	309	476	291	457	286	516	655	453	308	296	305	475	562
Graduate school	3187	1401	189	2566	873	1055	1393	306	916	231	164	2264	1740
Agriculture	1256	....	....	....	1577	....	1518	....	....	....	....	....	1537
Architecture	150	....	....	60	132	103	281	....	....	....	*	315	*
Art	150	*	....	....	17	....	175	22	....	....	325	*	*
Commerce	2321	327	607	489	....	1000	2045	1602	466	108	335	159	629
Dentistry	179	142	....	225	....	162	222	137	117	....	....	169	242
Divinity	....	....	....	....	....	73	....	....	....	....	....	....	....
Education	2277	*	439	6312	....	262	481	655	....	10	144	391	1315
Forestry	303	....	....	....	*	*	....	....	....	....	....	176	*
Journalism	....	....	....	62	....	9	148	93	....	....	....	*	*
Music	78	*	....	....	....	*	181	121	*	....	*	248	*
Pharmacy	182	....	....	317	....	....	246	....	114	....	83	76	164
Other courses	231	915	363	997	917	137	539	172	230	571	91	214	1852
Deduct duplicates	2230	....	133	103	52	....	650	115	....	....	98	116	....
Total	**24809**	**6212**	**4309**	**14980**	**6890**	**8583**	**13872**	**6007**	**5901**	**2041**	**4353**	**11475**	**15148**
Part-time	....	1602	6625	3894	....	....	270	141	613	3066	242	....	....
Summer session	6801	4432	1066	11822	2057	2913	3897	2094	3009	987	1231	5771	8610
Deduct duplicates	1883	1600	145	2250	352	359	1505	484	861	314	573	1914	?
Gd. tot. Nov. 1, '38	**29727**	**10646**	**11855**	**28446**	**8595**	**11137**	**16534**	**7758**	**8662**	**5780**	**5253**	**15332**	?
Gd. tot. Nov. 1, '33	**21019**	**11387**	**9372**	**24357**	**7136**	**9444**	**11523**	**5249**	**6644**	**3908**	**4266**	**10113**	?
Gd. tot. Nov. 1, '28	**26562**	**12662**	**10328**	**32036**	**7465**	**10793**	**13010**	**5452**	**8026**	**5575**	**5140**	**12890**	?
Exten. courses	14765	2555	....	2950	....	....	501	6767	1581	....	2000	3207	8037
Teaching staff	2087	822	647	3325	1020	1956	1749	461	525	674	256	770	872
Administrative staff	62	41	15	88	14	....	106	33	105	6	18	39	71

reaction to economic conditions than do the fields being pursued by upper classmen.

Of the 577 institutions in the present study, 516 supplied comparative figures for freshmen of 1937 and 1938 in four large fields: liberal arts, engineering, commerce or business administration and agriculture. Their statistics, tabulated in the accompanying freshman table, may be summarized as follows:

In these 516 institutions there are 196,582 freshmen in the fields indicated, or 4.4 per cent. more than in 1937.

The total of 137,502 liberal arts freshmen is 7,443, or 5.7 per cent. more than in 1937. This discloses, for the specific institutions considered, a trend upward after the liberal arts enrolment decreases of recent years. The gain this year in 360 separate colleges of arts and sciences is 5,078 freshmen, or 7.8 per cent.; in 51 public universities, it is 1,115 freshmen, or 3.2 per cent. In the 49 private universities there are 339 fewer liberal arts freshmen this year than last. The 40 technological institutions and 16 teachers colleges report respectively 557 more and 1,032 more liberal arts freshmen than a year ago, which are increases of 21.9 per cent. and 20.0 per cent.

As to engineering freshmen, the total of 28,376 is 427 more than in 1937, or 1.5 per cent. This is in contrast with the 10 per cent. increase of 1937 over 1936 and the 17 per cent. increase of 1936 over 1935 for approximately the same institutions.

As to commerce or business administration, the total of 22,139 freshmen is 289 fewer than a year ago, a decrease of 1.3 per cent. This finding indicates a sharp check to the soaring tendency of the past few years as shown in increases of 33 per cent. in 1937 over 1936, of 14 per cent. in 1936

TABLE III—(*Continued*)

Missouri	Nebraska	Northwestern	Ohio State	Pennsylvania	Pittsburgh	Princeton	Stanford	Syracuse	Texas	Tulane	University of Washington	Virginia	Washington University	Western Reserve	Wisconsin	Yale
1374	1132	1382	1787	1003	1327	2080	2938	1079	3227	651	3062	1637	691	949	3787	2858
640	666	1220	755	544	834	....	1197	825	2323	551	3483	6	639	761	1998	....
1280	797	246	1864	482	893	349	268	438	1612	324	1334	346	366	....	1492	269
152	206	248	220	389	170	....	167	101	676	142	221	390	168	184	397	391
67	315	526	303	683	240	....	206	178	377	473	....	246	348	265	269	225
511	477	299	1358	473	999	262	269	568	302	232	....	204	....	117	1280	699
995	903	....	1554	....	....	....	....	....	....	....	....	....	....	....	1295	....
....	55	....	*	97	....	....	....	64	*	30	*	46	48	41	....	69
....	95	....	*	44	....	....	26	494	106	108	*	....	308	*	*	255
337	1098	558	2219	2108	735	....	213	1261	547	231	1418	445	275	*	*	....
....	60	366	200	425	159	....	....	....	....	....	....	....	121	140	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	247
342	1025	324	2283	366	485	....	211	475	233	*	318	61	78	170	712	....
....	....	....	*	....	....	....	....	498	....	....	334	....	....	....	*	55
378	205	81	*	*	....	....	48	61	*	*	*	....	14	*	*	....
....	111	359	*	49	....	....	....	....	*	38	*	....	....	*	*	93
....	95	....	219	....	205	....	....	....	254	....	223	....	....	84	*	....
....	157	324	470	496	176	....	2727	715	119	146	....	....	156	395	208	137
92	587	....	84	8	24	....	4135	493	....	89	....	595	....	....	....	....
5984	**6810**	**5933**	**13148**	**7151**	**6199**	**2691**	**4135**	**6264**	**9776**	**2931**	**10393**	**2786**	**3212**	**3106**	**11438**	**5298**
....	402	9148	....	6498	3860	....	....	337	816	1013	512	69	....	5655	....	....
2780	2229	4516	6054	1901	2989	116	1063	2473	6077	872	4238	1335	1338	2017	4757	....
751	816	1200	2096	960	1307	116	439	818	2368	?	824	281	412	554	1141	....
8013	**8625**	**18397**	**17106**	**14590**	**11741**	**2691**	**4759**	**8256**	**14301**	**?**	**14319**	**3909**	**4138**	**10224**	**15054**	**5298**
4540	**6279**	**11517**	**11564**	**11170**	**9653**	**2568**	**3683**	**6502**	**7960**	**?**	**8782**	**3458**	**4037**	**7447**	**9608**	**5183**
5328	**8897**	**12036**	**12662**	**14844**	**12674**	**2454**	**4343**	**6882**	**8259**	**?**	**10339**	**4311**	**4358**	**10832**	**12939**	**5830**
1300	3129	....	....	1709	936	....	....	....	3117	....	4325	1313	3288	....	26539	318
395	410	816	897	1530	986	315	679	557	518	476	762	329	450	723	568	684
46	20	45	12	143	44	38	111	36	28	11	60	24	20	5	38	92

over 1935, and of 12 per cent. in 1935 over 1934 in approximately these same institutions.

As to agriculture, the total of 8,565 freshmen is 636 larger, or 8.0 per cent. increase over 1937. This resumes the upward tendency interrupted last year when there was a small decrease as compared with 1936. Earlier increases in substantially the same institutions had been 10 per cent. and 30 per cent. in the number of freshmen starting agricultural courses.

In assembling and recording the thousands of figures in this study for prompt publication, time has not been available for a statistical analysis of students registered in schools of law, medicine, non-professional graduate study and other fields. As to courses in education, the tabulation of full-time enrolments in 67 teachers colleges discloses an increase of 9,812 for 1938 over 1937, or 17.9 per cent. This gain, which apparently prevails also in university departments of education and in teachers colleges not included in the A.M.A. list, is of interest as it follows a period of smaller enrolments among those preparing to teach in secondary schools.

THE UNEMPLOYMENT PROBLEM AND COLLEGE-TRAINED WOMEN

In his report to President Roosevelt upon completion of the unemployment census last October, Mr. John D. Biggers pointed out that the influx of women workers has become a central factor in the unemployment problem. The Biggers report (as quoted in the *New York Times* of October 8, 1938) showed that "the proportion of the female population gainfully occupied . . . remained relatively stable from 1910 to 1930," but that in 1937 there were 2,740,-

000 more women classified as workers than anticipated "by adjustment of the 1930 figures,"—an increase in proportion "greater than would be expected from a projection of the trend of the preceding two decades." It was further found that "relatively more women between 25 and 39 years of age and fewer under 20 or over 50 were employed in 1937 than were classified as workers in 1930."

It would be difficult, perhaps impossible because of elements other than statistical, to ascertain definitely the extent to which college-trained women are a factor in the situation indicated by the foregoing figures. President William Allan Neilson, of Smith College, has given the present writer this comment: "My own impression, which I cannot prove, is that the increase noted by Mr. Biggers is due to social causes and is affected by the college attendance of women very slightly if at all."

President Henry Noble MacCracken, of Vassar College, writes: "The present enrolment trend in colleges seems upward, but the number of positions open to college women does not appear greater. This would seem to imply that college women must learn to accept positions at lower technical and income levels than in the past."

Dean Virginia Gildersleeve, of Barnard College, makes somewhat the same point in observing that "opportunities for women in business and professional fields . . . have undoubtedly been unfavorably affected by economic conditions. Shortage of jobs has tended to make men push women out in various lines."

Another angle is referred to by President Ada L. Comstock, of Radcliffe College: "There has been a distinct tendency among young college men and women to marry before the young husband has been in a position to support his wife. That fact has surely brought a good many married college women into the workers' group."

President Marion Park, of Bryn Mawr College, reports that "Bryn Mawr graduates with M.A. and Ph.D. degrees have not had great difficulty in obtaining positions. The graduates with an A.B. degree only are on the whole finding it increasingly necessary to have some further training such as apprentice teaching, apprentice work with social agencies, or actual professional study of some kind."

President Frederick P. Keppel, of the Carnegie Corporation, commenting upon the Biggers report which "reveals the steadily rising proportion of women as earners," said in a recent address at Cincinnati: "Women, though ambitious and active, are relatively less mobile than men even to-day, and this fact definitely operates to throw the responsibility for their vocational training upon the urban university."

TABLE IV

1937 AND 1938 CLASSIFICATION COMPARISONS
INSTITUTIONS
Totals of Full-time Enrolment

	Classification	1937	1938
55	Universities, public	254,605	273,291
50	Universities, private	180,560	184,569
355	Colleges	203,370	214,291
42	Technological Institutions.	73,888	81,068
67	Teachers Colleges	54,775	64,587
569	**Totals**	**767,198**	**817,806**

Totals of Students, Full-time and Part-time

	Classification	1937	1938
55	Universities, public	367,419	396,450
50	Universities, private	327,888	335,206
355	Colleges	275,127	294,152
42	Technological Institutions.	92,324	102,309
67	Teachers Colleges	110,562	125,483
569	**Totals**	**1,173,320**	**1,253,600**

COMPARATIVE ENROLMENTS OF WOMEN STUDENTS

The wide interest in the Biggers report has suggested as timely a study of the changes in enrolment of women in American colleges and universities. Data are not available regarding women's attendance in nursing, home economics and professional and semi-professional courses. As to students taking liberal arts courses, both women and men, abundant statistics for the

period 1933 to 1938 and limited but representative statistics for the period 1928 to 1938 are afforded by these annual SCHOOL AND SOCIETY registration articles.

Table VIII presents a tabulation of liberal arts students in 1933 and in 1938 for 240 institutions, together with comparative percentage increases for women and men. In considering these large increases it should be remembered that 1933 was a low year in the nation-wide economic depression. The data may be summarized as follows:

After five years of this recovery period the attendance of women in liberal arts courses in 240 institutions is 21.6 per cent. higher than in 1933, while the similar increase in men students of the liberal arts is 18.4 per cent.

The largest advance in numbers and percentage of women students is recorded in the 45 public universities under consideration, where there are 26.8 per cent. more this year than in 1933; the similar increase in men students is 24.8 per cent.

The smallest percentage increase of women students is in the 157 separate colleges of arts and sciences considered, in which there are 17.8 per cent. more this year than in 1933. Men students of the liberal arts in these same colleges show an increase for 1938 over 1933 of 21.9 per cent.

In 38 private universities the liberal arts attendance of women for 1938 is 19.9 per cent. higher than it was in 1933, while the similar men's enrolment is only 6.9 per cent. higher.

Table IX presents a tabulation of liberal arts students in 1928 and in 1938 for 24 large coeducational universities: University of California (including Berkeley, Los Angeles, San Francisco and other centers), University of Chicago, University of Cincinnati, Columbia University, Cornell University, University of Illinois, Indiana University, State University of Iowa, University of Kansas, University of Michigan, University of Minnesota, University of Missouri, University of Nebraska, Northwestern University, Ohio State University, University of Pennsylvania, University of Pittsburgh, Stanford University, Syracuse University, University of Texas, Tulane University of Louisiana; Washington University (St. Louis), Western Reserve University and University of Wisconsin; for 30 separate colleges for women: Agnes Scott, Bryn Mawr, Connecticut College for Women, Converse, Elmira, Florida State College for Women, Goucher, Hunter, Mills, Mount Holyoke, New Rochelle, Radcliffe, Randolph-Macon College for Women, Rockford, Rosary, St. Catherine, St. Elizabeth, St. Teresa, Simmons, Smith, Sweet Briar, Trinity (D. C.) Vassar, Wellesley, Wells, Wesleyan College, Western, Wheaton, Wilson and Winthrop; for 7 Eastern colleges for women: Barnard, Bryn Mawr, Mount Holyoke, Radcliffe, Smith, Vassar and Wellesley; and for 5 Eastern universities for men: Harvard, Johns Hopkins, Princeton, Virginia and Yale.

Table X gives totals of attendances for each of the years, 1928 to 1938 inclusive, for the foregoing 24 coeducational universities and 30 colleges for women.

From Table X two charts have been drawn: a bar chart which shows by the length of the bars the stability of attendance in these groups of 54 institutions; and a ratio chart representing the relative rates of change in attendance.

The present writer ventures to summarize and interpret the data of Tables VIII, IX and X and the two accompanying charts as follows:

In the period 1928 to 1938 inclusive the attendance of women in liberal arts courses increased in substantially the same proportion for women in 24 coeducational universities and for women in 30 colleges for women, the enrolment of 1938 being in both cases 6.6 per cent. higher than in 1928. This increase is less than that for men students of the liberal arts, which is 7.7 per

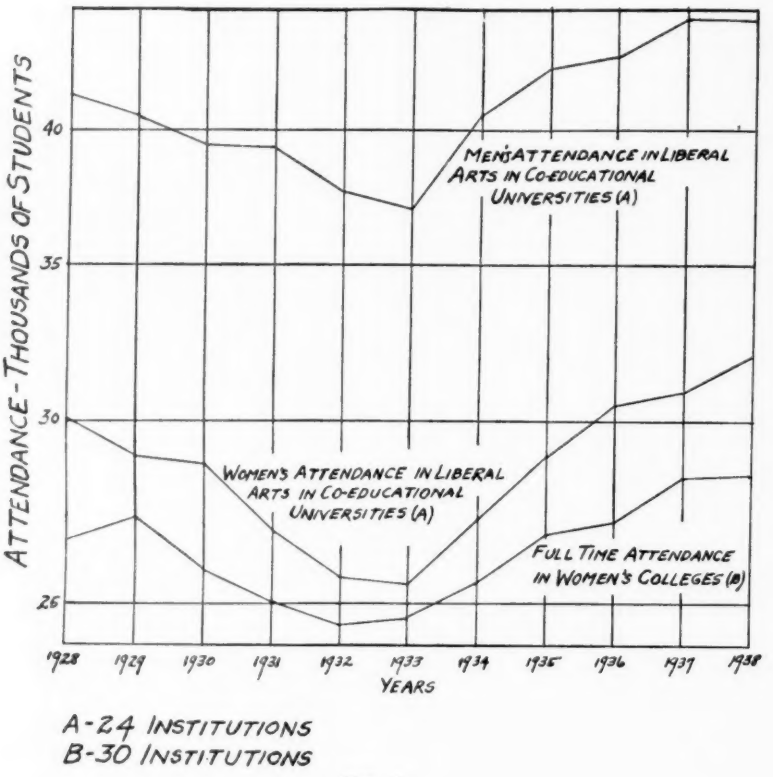
ATTENDANCE - THOUSANDS OF STUDENTS
40
35
30
26
MEN'S ATTENDANCE IN LIBERAL ARTS IN CO-EDUCATIONAL UNIVERSITIES (A)
WOMEN'S ATTENDANCE IN LIBERAL ARTS IN CO-EDUCATIONAL UNIVERSITIES (A)
FULL TIME ATTENDANCE IN WOMEN'S COLLEGES (B)
1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938
YEARS
A-24 INSTITUTIONS
B-30 INSTITUTIONS

FIG. 1.

cent. higher in 1938 than in 1928 in 24 coeducational universities and 10.5 per cent. higher in 5 Eastern universities for men.

In considering the statistics for the 7 Eastern colleges for women, President Neilson's comment is pertinent: They "show practically no trend because of limits set on enrolment."

As to the economic recovery period, 1933 to 1938, the figures and rates of change for these 24 coeducational universities indicate that their liberal arts attendance of women is increasing more rapidly than that of men. This is in contrast with the findings already cited for 157 separate colleges of arts and sciences, where the 1938 attendance of liberal arts men is 21.9 per cent. higher than in 1933, whereas the increase for liberal arts women is 17.8 per cent. higher.

The present writer interprets the entire data to indicate that the attendance of women students taking liberal arts courses in these representative colleges and universities has recently been increasing more rapidly than the attendance of liberal arts men students; but that, for the whole decade, 1928 to 1938, the number and ratio of women students have not advanced markedly in comparison with those of men students.

EXPLANATORY PARAGRAPHS

In earlier years this annual study was limited to thirty universities chosen by the editor of SCHOOL AND SOCIETY and the compiler as geographically and educationally representative. Many have requested enlargement of the list of thirty for which full statistics are given in Table III. Such enlargement has not seemed feasible. The following paragraphs explain certain statistics and present other information, including for comparison the full-time enrolment at each university five years ago.

In accordance with its official practice, the University of California reports its total as including its widely separated in-

stitutions at "Berkeley, Los Angeles, San Francisco and elsewhere." The total for all these this autumn is 24,809 full-time students, which is 1,854 more than last year. The grand total of 29,727 is 2,804 larger. Beyond this there is an extension enrolment of 13,770 and 995 taking home study courses, so that the "super-grand total" receiving University of California instruction of all types is 44,492. The report on freshman enrolment shows 2,967 in liberal arts, 554 in engineering, 505 in commerce and 207 in agriculture as compared with corresponding freshman enrolment in 1937 as follows: 2,779; 485; 469; and 203. In Table III the total of 2,828 in applied science is made up of 2,254 in engineering and 574 in chemistry. The 231 students indicated in the term other courses comprise 160 in nursing and 71 in librarianship. The official report explains that the figures for education include 1,416 in the Teachers College, U.C.L.A.; 57 in the liberal arts college and 804 in the non-professional graduate school at Berkeley. The 1938 summer session total was made up as follows: Intersession (Berkeley), 1,310; summer session (Berkeley), 3,315; summer session (Los Angeles), 2,584. For those who wish further analysis, these figures are given concerning the separate enrolment of 7,911 full-time students in the University of California at Los Angeles: Liberal arts, 2,334

TABLE V

STATES HAVING LARGEST FULL-TIME ENROLMENT

States	Full-time students	Rank in collegiate population	Rank in U. S. census population
New York	100,265	1	1
Pennsylvania ..	51,379	2	2
Illinois	49,547	3	3
Ohio	48,029	4	4
California	45,643	5	6
Texas	40,429	6	5
Massachusetts .	37,107	7	8
Michigan	34,507	8	7
Indiana	25,109	9	11
Wisconsin	23,338	10	13
Minnesota	21,636	11	18
Missouri	21,260	12	10
Iowa	20,225	13	19
Louisiana	18,414	14	22
Washington ...	18,123	15	30
Kansas	17,830	16	24
North Carolina.	16,803	17	12
Virginia	15,576	18	20
Oklahoma	13,748	19	21
Alabama	12,715	20	15
Nebraska	12,348	21	32
Tennessee	12,286	22	16
Maryland	11,366	23	28
Georgia	11,303	24	14
Kentucky	11,031	25	17

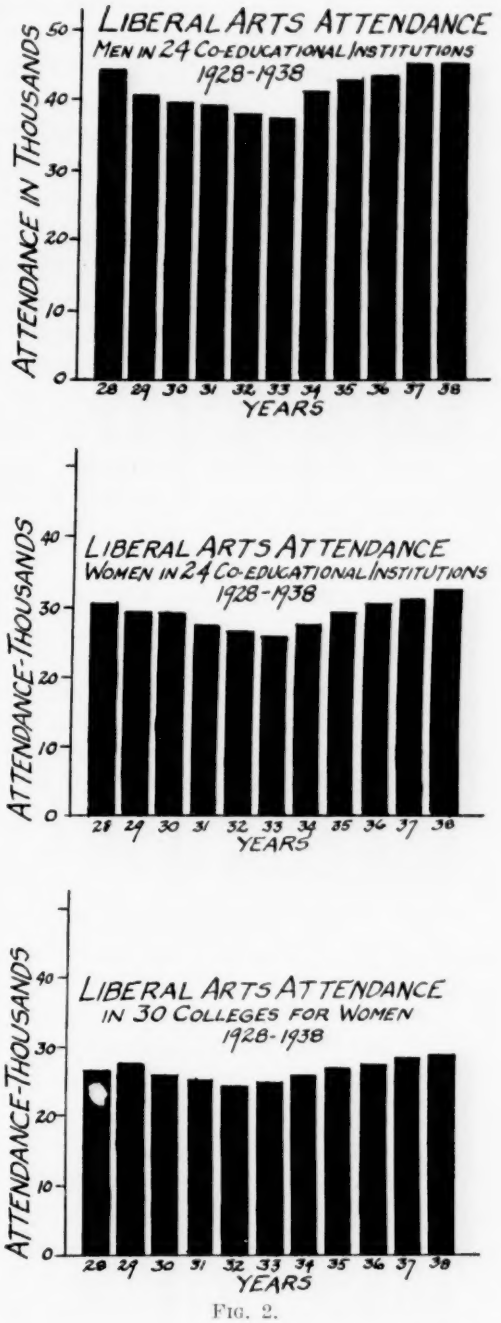

FIG. 2.

men and 2,108 women; engineering, 286; chemistry, 17; non-professional graduate school, 734; agriculture, 95; business administration, 828; education, 1,416; special students, 93. The teaching staffs at all the university's institutions, 2,087, include "minor members of the teaching staff." Full-time students, 24,809; in 1933, 18,337.

The 1938 full-time enrolment of 6,212 at the University of Chicago is 177 larger than at this time last year. There are 350 more in the grand total. The 753 freshman in liberal arts are 131 more than a year ago. In Table III the liberal arts total includes students in art, education and music. The figures for other courses here takes in 718 students in the School of Social Service Administration, 159 "students-at-large" and 38 in the Graduate Library School. The enrolment of 1,602 listed as part-time in Table III is that of University College. As 2,555 persons take home study courses, the super grand total of the University of Chicago is 13,201. The 41 listed under administrative officers include "29 who have faculty rank and who are duplicated in the faculty count." Full-time students, 6,212; in 1933, 5,414.

Both in respect to its 4,309 full-time students and 11,855 grand-total enrolment, the University of Cincinnati this year has the largest numbers in its history. These increases over 1937 are 140 and 720, respectively. They are recorded despite enrolment limitations in engineering, commerce and medicine. As to freshmen the figures are 364 in liberal arts, 354 in engineering and 133 in commerce, as compared with the corresponding 1937 freshman numbers: 299; 408; and 184. In Table III it should be noted that the figures of 1,448 in engineering include 283 students in architecture and that the term other courses here embraces 264 students in the School of Household Administration and 96 in the School of Nursing and Health. Full-time students, 4,309; in 1933, 3,698.

Columbia University's total of 14,980 students in undergraduate, graduate and professional colleges and schools this fall is 297 larger than last. The grand total enrolment of 28,446 is 111 larger. Beyond this there are non-resident students estimated as 550 in special courses and 2,400 taking extramural courses, bringing the super-grand total up to 31,396. In Table III the liberal arts total of 2,812 is made up as follows: Columbia College, 1,788 men; Barnard College, 917 women; Bard College at Annandale-on-Hudson, 107 men. The education figures represent the Teachers College of 6,312 graduate and undergraduate students and those in New College. The term other courses taken in library service with 384 students; nursing, 172; "unclassified students," 167; university undergraduates, 113 men and women; optometry, 108; dental hygiene, 53. Full-time students, 14,980; in 1933, 13,322.

There are 451 more students in the 6,890 full-time enrolment of Cornell University this fall than last. Because of a slightly larger summer school attendance last summer, the grand total of 8,595 is 473 greater. In Table III the total of 1,104 given for applied science includes 191 students in chemistry. Under other courses there are embraced 474 students in home economics, 280 in hotel administration, and 163 in veterinary medicine. The special report on freshmen shows 451 in liberal arts; 421 in engineering (including 97 in chemical engineering); and 413 in agriculture compared with corresponding freshmen in 1937 of 526; 272; and 403. Full-time students, 6,890; in 1933, 5,671.

The Harvard full-time total of 8,583 students this autumn is 445 larger than that of a year ago. As to Table III these explanations should be made: The number indicated for architecture (which is on a graduate basis) includes some students in landscape architecture and in regional planning. Students in chemistry are included

in the liberal arts total. Students in forestry are included in the graduate school figures. The nine listed under journalism are graduate fellowship holders. The term other courses here takes in 72 graduate students in public health, 27 special students doing full-time work in arts and sciences, 22 junior fellows and 16 students in public administration. The deduction of 359 for those attending the 1938 summer session and the present academic year is the average of actual deductions of two previous years. The number of liberal arts freshmen this fall is 1,030; last fall it was 1,032. Full-time students, 8,583; in 1933, 7,911.

The full-time students at the University of Illinois number 13,872 or 225 more than a year ago. Because of a larger 1938 summer session the grand total enrolment is 449 larger. In Table III there are 617 students in chemistry and chemical engineering in the engineering total who are also included in the liberal arts totals; deductions for duplicates are shown. Other courses here means 387 students in the School of Physical Education, 100 in library work and 52 in landscape architecture. The 1,749 indicated for the teaching staff includes 48 who are also doing administrative work. As to freshmen the special report shows 1,480 in liberal arts, 672 in engineering, 746 in commerce and 532 in agriculture, compared with corresponding figures for 1937 as follows: 1,519; 712; 870; 508. Full-time students, 13,872; in 1933, 9,996.

Continuing its steady increase of the past few years, Indiana University records 592 more students this fall than last in its full-time total of 6,007. There are 909 freshmen in liberal arts and 626 in commerce as compared with 814 and 579 respectively last year. The grand total of 7,758 students is 815 more chiefly because of a larger summer school attendance. In Table III, the 172 students recorded under other courses are in nurses training. Full-time students, 6,007; in 1933, 4,103.

TABLE VI

LARGEST INSTITUTIONS

Institution	Full-time students	Rank	All resident students	Rank
California	24,809	1	29,727	2
Minnesota	15,148	2	?	?
Columbia	14,980	3	28,446	3
New York University	14,257	4	38,744	1
Illinois	13,872	5	16,534	8
Ohio State	13,148	6	17,106	6
Michigan	11,475	7	15,332	10
Wisconsin	11,438	8	15,054	11
U. of Washington	10,393	9	14,319	13
Texas	9,776	10	16,669	7
C. C. of New York	8,628	11	23,252	4
Harvard	8,583	12	11,137	20
Louisiana	7,901	13	9,831	23
Pennsylvania	7,151	14	14,590	12
Hunter	7,000	15	12,205	15
Cornell	6,890	16	8,595	..
Nebraska	6,810	17	8,625	..
Boston U.	6,470	18	11,319	19
Purdue	6,440	19	7,596	..
Penn State	6,404	20	9,750	24
Syracuse	6,264	21	8,256	..
Chicago	6,212	22	10,646	21
Pittsburgh	6,199	23	11,741	18
Oklahoma	6,156	24	8,173	..
Brooklyn	6,032	25	12,882	14
Northwestern	5,933	..	18,397	5
S. California	5,043	..	15,487	9
Wayne	5,468	..	12,159	16
Cincinnati	4,309	..	11,855	17
Western Reserve	3,106	..	10,224	22
Temple	5,826	..	9,255	25

An advance of 756 is observable in the full-time enrolment of the State University of Iowa, which is 5,901. The freshman class includes 1,033 in liberal arts as compared with 993 last fall, and 128 in engineering as compared with 115 a year ago. In Table III, it should be noted that music students are included in the liberal arts total and that the 230 students listed under other courses are engaged in nursing training. The figures for teaching and administrative staff are those of a year ago. Full-time students, 5,901; in 1933, 4,254.

The full-time enrolment at Johns Hopkins University, 2,041, is 21 larger than last year; the grand total of 5,780 is 237 larger. In Table III the engineering total includes 27 graduate students in engineering. As full-time are recorded 417 students in "afternoon and evening courses" as distinct from part-time students numbering 3,066. Other courses here includes also 154 in the School of Hygiene and Public Health. The freshman report indicates 131 new students in liberal arts, 108 in engineering and 27 commerce, as compared with similar num-

TABLE VII
FRESHMAN ENROLMENT

	Liberal arts		Engineering		Commerce		Agriculture	
	1937	1938	1937	1938	1937	1938	1937	1938
51 Universities, public	34,600	35,715	10,964	10,558	8,116	7,866	4,014	4,228
49 Universities, private	22,396	22,057	3,560	3,524	8,853	8,233	....	....
360 Colleges	65,367	70,445	1,361	1,515	3,383	3,744	383	453
40 Technological institutions	2,546	3,103	12,024	12,718	1,914	2,125	3,531	3,883
16 Teachers colleges	5,150	6,182	40	61	162	171	1	1
516 Totals	**130,059**	**137,502**	**27,949**	**28,376**	**22,428**	**22,139**	**7,929**	**8,565**

bers for 1937 as follows: 164; 134; 39. Full-time enrolment, 2,041; in 1933, 1,713.

At the University of Kansas there are a few less full-time students and a few more in the grand total enrolment. The full-time figures this fall are 4,353 and the grand total, 5,253. The freshman report shows 795 in liberal arts and 185 in engineering as compared with 826 and 213 respectively in 1937. In Table III the total for engineering includes students in architecture. The 325 students recorded under art are registered in the School of Fine Arts, which embraces music as well. The 91 students listed under other courses are taking nursing. Full-time students, 4,353; in 1933, 3,503.

The University of Michigan figures of 11,475 full-time and 15,332 grand total enrolment are 523 and 894 respectively larger than a year ago. As to the freshmen there are 1,041 beginning liberal arts courses, 435 engineering, and 133 other courses, as compared with corresponding numbers last fall of 1,132; 368; 147. In Table III students in art and journalism are included under liberal arts. The 214 students listed under other courses are in nursing courses. There are 2,768 enrolled in extension courses and 439 taking home study courses, for some of which credit may be granted. The super grand total of Michigan is 18,539. Full-time students, 11,475; in 1933, 8,261.

The report of the University of Minnesota shows 15,148 full-time students this fall, or 1,457 more than a year ago. As to Table III it should be said that the total of 2,066 listed under engineering are students in the Institute of Technology, which includes architecture, chemistry, engineering and mines; that the total for agriculture takes in also students in forestry and home economics; that students in art, journalism and music are included in the liberal arts total; that the figures for other courses embrace the General College, 791 students; nursing, 444 students; "Institute and Business" with 188 students; public health nursing, 107 students; agricultural education, 94 students; dental hygiene, 87 students; medical technology, 63 students; University College, 42 students; Institute of "Technology and Agriculture," 31 students; "Agriculture and Business," 5 students. There are 1,733 freshmen in liberal arts, 604 in engineering and 443 in agriculture, which may be compared with corresponding numbers of a year ago as follows: 1,658; 627; 466. The report does not supply the requested information as to deductions between those attending the 1938 summer session who are also enrolled for the present academic year. The reported grand total of 23,758 is accordingly not comparable with those of other universities and is therefore not listed in Table IV. Full-time students, 15,148; in 1933, 11,292.

The full-time enrolment of the University of Missouri is reported as 5,984 and the grand total as 8,013. A year ago there were 5,589 and 7,618 respectively. The freshman figures are 766 in liberal arts, 393 in engineering and 312 in agriculture, as compared with these figures last fall: 801;

395; 310. The engineering total in Table III represents 779 students in the School of Mines and Metallurgy at Rolla. The figures for teaching and administrative staffs are those of a year ago. Full-time students, 5,984; in 1933, 3,086.

The University of Nebraska's figures of 6,810 full-time students and a grand total of 8,625 disclose gains over last fall of 223 and 423 in these respective categories. This year the entering freshmen are as follows: liberal arts, 612; engineering, 307; commerce, 429; agriculture and household administration, 317. In 1937 the corresponding figures were: 614; 319; 439; 295. In Table III other courses include nursing with 122 students and graduate social work with 35 students. Counting 2,923 taking home correspondence and 206 taking extension courses at Lincoln, the super grand total of all receiving University of Nebraska instruction is 11,754. Full-time students, 6,810; in 1933, 4,546.

A somewhat reduced enrolment as compared with 1937 is indicated in the current report of Northwestern University. Numbers of both men and women in liberal arts are about the same, although there are 820 freshmen as compared with 902 taking up liberal arts work last year. As to other first-year students there are 79 in engineering and 229 in commerce, in which corresponding numbers in 1937 were 97 and 250, respectively. The drop from 137 to 81 in journalism is explained by a change by which "students are not registered in the School of Journalism until the beginning of their senior year instead of at the beginning of their junior year." Other courses in Table III means speech, in which there are 324 students. The number of part-time students is reported as 9,148, which is fewer than a year ago. Full-time students, 5,933; in 1933, 5,548.

With an increase of 404 full-time students, the fall enrolment of Ohio State University is 13,148. The grand total of 17,106 is 821 larger than a year ago. The special freshman report shows 1,246 in liberal arts, 524 in engineering, 804 in commerce and 629 in agriculture, as compared with 1937 numbers respectively as follows: 1,190; 585; 924; 547. Regarding Table III it should be explained that students in architecture are included under engineering; that students in art and music are counted in the education total; that students in journalism are included under liberal arts; that the agriculture number includes some students in forestry; and that the term other courses here comprehends students in arts-education, nursing, optometry and veterinary medicine. Full-time students, 13,148; in 1933, 9,335.

The University of Pennsylvania full-time registration of 7,151 this autumn is 136 larger than that of 1937, and the grand total of 14,590 is 436 larger. In the freshman class there are 342 men and 213 women starting liberal arts courses, 133 in engineering and 533 in commerce, as compared with corresponding figures a year ago as follows: 391; 243; 86; 545. In Table III the engineering total includes 46 students in chemistry and 148 in chemical engineering. In the figures for medicine, 200 are

TABLE VIII

LIBERAL ARTS ATTENDANCE, 1933, 1938
WOMEN AND MEN STUDENTS

	Women			Men		
	1933	1938	Per cent. increase	1933	1938	Per cent. increase
45 Public universities	27,575	34,976	26.8	37,191	46,433	24.8
38 Private universities	16,820	20,166	19.9	32,369	34,598	6.9
157 Separate colleges of arts and sciences	30,110	35,465	17.8	37,391	45,573	21.9
240 Institutions	**74,505**	**90,607**	**21.6**	**106,951**	**126,604**	**18.4**

TABLE IX

LIBERAL ARTS ATTENDANCE, 1928, 1938
WOMEN AND MEN STUDENTS

	Women			Men		
	1928	1938	Per cent. increase	1928	1938	Per cent. increase
24 Coeducational universities	30,060	32,044	6.6	41,414	44,610	7.7
30 Separate colleges for women	26,628	28,386	6.6	.....	.....	...
7 Eastern colleges for women	8,250	8,274	0.3	.....	.....	...
5 Eastern universities for men	.....	.....	..	9,709	10,733	10.5

in the Graduate School of Medicine. There are eleven students in landscape architecture and eight graduate architectural students counted in the total for architecture. Of the commerce total indicated, 1,969 are in the Wharton School (the oldest school of this type in the United States) and 139 in the Graduate Course in Business Administration. The number given for education includes 74 graduate students. The total for other courses is made up of 196 in veterinary medicine, 168 in the Nurses Training School, 87 in the Pennsylvania School of Social Work, and 45 taking oral hygiene. The part-time enrolment of 6,498 includes 3,205 in the Evening School; 1,124 in College Collateral Courses; 961 in education (of whom 391 are graduate students); 889 in the Graduate School; 195 in the Pennsylvania School of Social Work; and the remainder in other courses. Full-time students, 7,151; in 1933, 6,402.

A trifle higher than a year ago is the full-time enrolment of 6,199 at the University of Pittsburgh; the grand total of 11,741 is 748 higher. The division of freshmen is recorded as follows: liberal arts, 694; engineering, 296; commerce, 232. The corresponding figures for 1937 were 704; 305; 244. In Table III the total listed for engineering takes in 205 students in "mines." The 485 students in education are in upper classes, as the freshman and sophomore years are taken in the liberal arts college. Other courses here means the Graduate School of Applied Social Science, 152 students, and retail training, 24 students. Full-time students, 6,199; in 1933, 5,792.

While limiting its liberal arts and graduate enrolment, Princeton University this fall admitted more engineering students than formerly, with the consequence that the total of 2,691 students is the largest in Princeton history. There are 550 freshmen in liberal arts and 124 in engineering as compared with 553 and 104 respectively a year ago. Regarding deductions for duplicates in Table III, it should be stated that all those attending the summer session at Princeton are taking make-up courses. Full-time students, 2,691; in 1933, 2,568.

The Stanford University report follows its usual style of giving all students first under liberal arts headings and again under specialized headings, with proper deductions for such duplication. In the lower division there are 605 freshmen as compared with 635 in the autumn of 1937. The number of women is now 1,197, as compared with the earlier limitation to 500. In Table III the figure for engineering takes in 23 students in chemistry. The students listed under commerce are in the Graduate

TABLE X

FULL-TIME ATTENDANCE IN 30 WOMEN'S COLLEGES AND ATTENDANCE IN LIBERAL ARTS IN 24 COEDUCATIONAL UNIVERSITIES

Year	Women's Colleges	Coeducational Universities	
	Women	Men	Women
1928	26,628	41,414	30,062
1929	27,262	40,580	28,964
1930	25,831	39,395	28,736
1931	25,050	39,287	26,903
1932	24,492	37,609	25,664
1933	24,659	36,999	25,504
1934	25,509	40,630	27,211
1935	26,774	42,525	28,940
1936	27,088	42,978	30,458
1937	28,330	44,684	30,856
1938	28,386	44,610	32,044

School of Business. The term other courses here means undergraduates in the School of Biological Sciences, Letters, Physical Sciences, Social Sciences and Lower Division. The full-time total of 4,135 is 26 less than a year ago. The teaching staff figure includes 146 teaching assistants. Full-time students, 4,135; in 1933, 3,328.

The increase of recent years at Syracuse University is continued in the full-time registration of 6,264, which is 187 more than last autumn. This advance is despite small decreases in the freshman class where there are 554 in liberal arts, 159 in applied science, and 362 in business administration, as compared with corresponding figures for 1937, of 595; 151; 405. In analyzing Table III, it should be known that the total for art includes students of music and of the fine arts; and that the other courses total is made up of 419 in home economics, 108 in the School of Speech, 94 in nursing; 54 in the Wanakena Forest Rangers, and 40 in library science. Full-time students, 6,264; in 1933, 4,709.

The University of Texas report covering the main campus at Austin and the medical branch at Galveston indicates a numerical gain of 702 students in full-time attendance. There are 1,324 freshmen in liberal arts, 328 in engineering and 43 in pharmacy, as compared with corresponding entrants a year ago: 1,295; 344; 40. As to Table III it should be explained that the 377 students in medicine are at Galveston; that architectural students are included under engineering; that the figure for art includes students in art, drama and music in the College of Fine Arts; and that other courses here means nursing, in which 119 students are enrolled. The deduction for summer-session duplication is estimated upon the past average of 39 per cent. for such duplication. Full-time students, 9,776; in 1933, 5,955.

The full-time attendance at the Tulane University of Louisiana, 2,931 students, is 255 larger than a year ago. In the special freshman report it is disclosed that there are 499 freshmen in liberal arts, 159 in engineering and 84 in commerce as compared with 1937 enrolments respectively of 410; 129; 67. In Table III the engineering total includes 111 students in chemistry. Students in education and in journalism are counted in the liberal arts total. The term other courses here means social work and graduate medical studies. The part-time enrolment figure is an estimate. Inasmuch as the Tulane report fails to indicate duplicates between summer session and regular session attendance, the compiler is leaving blank the Tulane space for the grand total. Full-time students, 2,931; in 1933, 2,436.

The University of Washington (Seattle) full-time registration this fall of 10,393 is 761 greater than a year ago. The increase is recorded, even though the freshman class is smaller. There are 2,110 freshmen in University College, 484 in engineering, 509 in economics and business, 94 in forestry, 61 in pharmacy and 18 in "mines," as compared with the 1937 freshman figures of 2,129; 551; 578; 138; 61; 23. In the University College enrolment is included students in architecture, art, journalism and music. The engineering total in Table III includes 107 students in the College of Mines. Full-time students, 10,393; in 1933, 6,398.

An increase of 212 is indicated in the full-time registration of 2,786 at the University of Virginia. There are 545 first-year men in liberal arts, 80 in engineering and 152 in commerce. The figures reported last year for first-year students were 626; 85; 176. These latter included a number of transfers from other colleges; this fall transfers are not so included. In Table III the engineering total embraces 170 students in chemistry as applied science. Full-time students, 2,786; in 1933, 2,269.

Evenly distributed gains combine to produce an increase of 120 in the full-time en-

rolment of 3,212 at Washington University, St. Louis. The freshman class includes 534 liberal arts students and 128 in engineering; last fall corresponding numbers were 484 and 122. As to Table III it is necessary only to point out that other courses includes students in nursing. Full-time students, 3,212; in 1933, 3,295.

Western Reserve University reports 3,106 full-time students, which is 118 fewer than a year ago. However, the grand total enrolment of 10,224 is 90 larger than in 1937. There are 420 liberal arts freshmen as compared with 494 last year. In Table III students taking courses in art, chemistry, commerce, journalism and music are included under the liberal arts total. The following groups are comprised in the term other courses: Applied social sciences, 207 students; nursing, 140; library science, 48. Full-time students, 3,106; in 1933, 3,357.

An increase of 574 over last year is to be found in the full-time registration of 11,438 students at the University of Wisconsin. The gains are chiefly in upper-class persistence. As to the freshman class, there are 1,929 in liberal arts, 476 in engineering and 436 in agriculture, as compared with corresponding numbers in 1937 as follows: 2,020; 500; 383. In Table III the liberal arts total takes in students in chemistry, commerce, journalism, music and pharmacy. Students in home economics and in forestry are included in the count for agriculture. The other course designation here means the School of Nursing, which has 208 students. Adding in extension courses the total of persons receiving University of Wisconsin instruction at this time is 26,539. Full-time students, 11,438; in 1933, 7,375.

Yale's enrolment of 5,298 this autumn is 77 larger than a year ago. The freshman class numbers 855, which is four fewer than in 1937. As to Table III it need only be explained that the 255 recorded under art include students in sculpture and drama and that the 137 reported under other courses are young women taking the course in nursing. Full-time students, 5,298; in 1933, 4,881.

EDUCATIONAL EVENTS

MINING INSTRUCTION IN WALES

IT is reported in *The London Times Educational Supplement* that the relation of the Treforest School of Mines to the mining department at the University College, Cardiff, Wales, has again been made the subject of inquiry by the decision of the miners' welfare committee to adjust the amount of the original grant to the school and to make instead a grant of £18,000, of which £14,000 is to be allocated to the provision of building and equipment for the teaching of mining. They state that having made full inquiry they believe that the provision of the new mining department for university and research work should be made at the University College at Cardiff, and that the School of Mines at Treforest should continue to provide instruction in senior and advanced mining. The South Wales Coal-owners' Association has also offered to contribute £5,000 towards the maintenance of the University Mining Department provided it is established at Cardiff.

For some time the relation of the Treforest School to the University College at Cardiff has been a subject of discussion. The Miners' Welfare Committee have more than once suggested that arrangements should be made for closer working between the two bodies, and in 1934 a scheme for the joint responsibility for mining education was drawn up and approved by the Glamorgan County Council and the College Council of Cardiff. In consequence the Miners' Welfare Committee in 1934 offered a grant of £42,000 for buildings and equipment. Then followed in May, 1935, the appointment of a professor of mining for the new Mining Department of the University College at Cardiff, it being then understood that the department would be located at Treforest, which is the center of the coalfield. In 1937 came the gift from

the South Wales Coal-owners' Association of £5,000, and the condition that the school should be established at Cardiff.

INTELLECTUAL FREEDOM

A MANIFESTO has been made public condemning the Fascist position toward science. It is signed by 1,284 American scientific men of high standing, including sixty-four members of the National Academy of Sciences and representing one hundred and sixty-seven universities and research institutions. The manifesto reads:

In an article entitled "The Pragmatic and Dogmatic Spirit in Physics," which appeared in the April 30 issue of *Nature* (with strong editorial disapproval), wide publicity is given to the official Nazi position on science and scientific research. In essence the article is an attack on all theoretical physics, and, by obvious implication, on scientific theory in general. It introduces the official racialism of the Nazis to divide physicists into good, *i.e.*, non-theoretical and "Aryan," and bad, *i.e.*, theoretical and Jewish. Similar notions have appeared in many popular magazines and scientific journals in Germany, in the addresses and writings of the Minister of Education, of university rectors and deans, of scientists and non-scientists. Apart from racial theories, furthermore, science and art are subject to ruthless political censorship. These ideas have found concrete expression in the dismissal and persecution of over 1,600 teachers and scientists (by the fall of 1936) from German universities and research institutes (and now Austria and Italy, too), and in the restriction of higher education to students having the "proper" political and racial qualifications.

American scientists, trained in a tradition of intellectual freedom, hold fast to their conviction that, in the words of the resolution adopted by the American Association for the Advancement of Science, "Science is wholly independent of national boundaries and races and creeds and can flourish only when there is peace and intellectual freedom." If science, to quote the A.A.A.S. resolution again, is to continue to advance and spread more abundantly its benefits to all mankind—and who can attack that goal?—then the man of science has a moral obligation to fulfill. He must educate the people against the acceptance of all false and unscientific doctrines which appear before them in the guise of science, regardless of their origin. Only in that way can he insure those conditions of peace and freedom which are essential for him and for the progress of all mankind.

It is in this light that we publicly condemn the Fascist position towards science. The racial theories which they advocate have been demolished time and again. We need only point to the work of Heinrich Hertz in physics, Fritz Haber and Richard Willstätter in chemistry, Ludwig Traube, Paul Ehrlich and August Wassermann in biology and medicine, all German Jews and all empirical scientists. The charge that theory leads to a crippling of experimental research is tantamount to a denial of the whole history of modern physics. From Copernicus and Kepler on, all the great figures in Western science have insisted, in deed or in word, upon the futility of experimental research divorced from theory.

We firmly believe that in the present historical epoch democracy alone can preserve intellectual freedom. Any attack upon freedom of thought in one sphere, even as non-political a sphere as theoretical physics, is in effect an attack on democracy itself. When men like James Franck, Albert Einstein or Thomas Mann may no longer continue their work, whether the reason is race, creed or belief, all mankind suffers the loss. They must be defended in their right to speak the truth as they understand it. If we American scientists wish to avoid a similar fate, if we wish to see the world continue to progress and prosper, we must bend our efforts to that end now.

THE SUPREME COURT DECISION ON EQUALITY OF EDUCATIONAL PRIVILEGES FOR WHITE AND NEGRO LAW STUDENTS

THE Supreme Court, reversing the decision of the Missouri Supreme Court on December 12 in a six to two decision, ruled that a state must give equality in educational privileges to white and Negro law students, and that the Law School of the University of Missouri either must admit Lloyd L. Gaines, a Negro of St. Louis, as a student, or a school of law must be established at Lincoln University, maintained by Missouri for the higher education of Negroes, to which he can be admitted.

The majority opinion was handed down by Chief Justice Hughes. A dissent was written by Justice McReynolds and joined in by Justice Butler.

It is held that Mr. Gaines was entitled under the Fourteenth Amendment of the Constitution to a legal education equivalent to that provided for white students and that he had not received

"equal protection" of the laws by the offer of Missouri to pay his tuition in an adjacent state where there was no discrimination against Negro students.

Justice Hughes said the court was of the opinion:

> that petitioner was entitled to be admitted to the law school of the State University in the absence of other and proper provision for his legal training within the state. That it was admitted at the trial that Mr. Gaines's work and credits at Lincoln University would qualify him for admission to the university law school, if he were found otherwise eligible.
>
> He was refused admission upon the ground that it was "contrary to the Constitution, laws and public policy of the State to admit a Negro as a student in the University of Missouri." It appears that there are schools of law in connection with the state universities of four adjacent states, Kansas, Nebraska, Iowa and Illinois, where non-resident Negroes are admitted.
>
> Missouri had established separate high school facilities for Negro students equal to those furnished for whites and also separate schools of higher education giving advantages substantially similar to those afforded the white students.
>
> But commendable as is that action, the fact remains that instruction for law is not now afforded by the state, either at Lincoln University or elsewhere within the state, and that the law excludes Negroes from the advantages of the law school it has established at the University of Missouri.
>
> The question here is not of a duty of the state to supply legal training, or of the quality of the training which it does supply, but of its duty when it provides such training to furnish it to the residents of the state upon the basis of an equality of right.
>
> By the operation of the laws of Missouri a privilege has been created for white law students which is denied to Negroes by reason of their race. The white resident is afforded legal education within the state; the Negro resident having the same qualifications is refused it there and must go outside the state to obtain it. That is a denial of the equality of legal right to the enjoyment of privilege which the state has set up, and the provision for the payment of tuition fees in another state does not remove the discrimination.

THE NEW YORK STATE INQUIRY INTO THE CHARACTER AND COST OF PUBLIC EDUCATION

AT the annual meeting of the New York Academy of Public Education, which was held at the Hotel Waldorf-Astoria on November 17, Dr. Luther H. Gulick, director of the regents' inquiry into the character and cost of public education in New York State, gave an address in which he outlined the findings of the inquiry.

The report points out that the education system of New York was failing in many ways to meet the needs of children for an education to prepare them for modern life. The plan of the inquiry to correct this situation, as outlined by Dr. Gulick, follows:

(1) Revision of the secondary school program by incorporating the seventh and eighth grades and adding two extra years beyond the twelfth grade. Other more minor changes include discontinuance of regents' examinations, increasing the compulsory school age from sixteen to eighteen, except for children able to find jobs; abolition of continuation schools and greater provision for education of the gifted and handicapped.

(2) Alteration of the elementary school program by the addition of free kindergartens, limitation of size to from 180 to 600 pupils and the provision of free textbooks for all children.

(3) Consolidation of the 7,000 school districts of the state into fewer and larger units to eliminate duplication of services and eliminate waste of money.

(4) Introduction of more economic administration of schools by eliminating small buildings and small classes, ceasing to erect ill-planned and over-luxurious schools and altering the state-aid formula which now encourages spending.

(5) Change in the basis of state aid so that local schools will receive state funds according to the number of children enrolled instead of average daily attendance. Also a provision to check extravagance by requiring state approval for any school system which spends more than $160 a year a child or in which state aid equals half the budget.

(6) A series of new policies to insure the improvement of the training and ability of teachers. These include competition for appointment and promotion for all teachers, addition of a fourth year to teacher training colleges, improvement of facilities and personnel of normal schools at a cost of $8,000,000, appointment of an advisory committee to redraft courses now offered in these colleges and increases in scholarships offered to student teachers. Also, to attract children of ability to teaching, extension of tenure rights to all teachers, raising of minimum salaries in rural schools from $800 to $1,200 and establishment of compulsory retirement with pension rights at the age of sixty-five.

(7) Increases in the number and amount of state

scholarships for colleges and universities to compensate for the lack of free higher education in the state. The inquiry suggested that the present number, 3,000, be doubled and that the stipend be raised from $100 to $300. It also urged the addition of 100 graduate fellowships of $400 each.

(8) Encouragement but no state aid for the extension of various independent adult education projects.

The ninth point concerning the reorganization of the Department of Education was explained by Dr. Albert B. Meredith, of New York University, who directed this phase of the investigation. Dr. Meredith proposes that the Board of Regents and the State Department turn its principal attention to serving as "the state educational planning authority." He said this function had been lost sight of in recent years in the press of administrative details. It was recommended that the State Department of Education give up as many as possible of the minute details of supervising local schools and substitute a program of research and fact-gathering to aid in the formation of basic educational policies.

THE BUDGET OF THE PHILADELPHIA SCHOOLS

The Philadelphia Inquirer prints a summary, written by William F. Feist, of the provisions of the budget for the schools of Philadelphia, which was approved on November 30. He writes:

Admitting the possibility of curtailed school activities next year, the Board of Education finance committee has approved a "short-change" budget for 1939. The committee appropriated $27,863,725, which is approximately $5,000,000 under the estimated requirements for the year.

Accompanying the budget submitted to the board for approval, was a report reviewing school finances and urging state assistance if the school system and salaries are to remain unimpaired.

The committee stated that the $32,753,061 estimated expenditures for 1939 "can not be reduced without serious impairment of the educational functions."

Of the total appropriations, $18,745,314 is for teachers' salaries. Although the board is prevented by law from reducing teachers' salaries, the money appropriated will be sufficient to pay salaries for 11 months only.

Proportionate reductions were made all along the line with no appropriation at all being made for school plant maintenance and equipment. This item, amounting to $871,000, will be paid out of loan funds authorized by law on tax collections.

The administrative employees' salary item of $1,242,862 was reduced nearly $100,000, while only $378,459, about one half of the required amount, was appropriated for text-books and educational material.

Another $118,000 was added to next year's expenditures, although no money was appropriated, on receipt of an opinion from the board's solicitor that the maintenance of evening schools is mandatory under the law. The board had cut the original appropriation of $236,000 in half. Now funds will have to be found to reimburse the item.

In submitting its report the committee pointed out that of the total estimated expenditures for next year, $27,523,573 is fixed by the school code and by mandate of the Supreme Court.

Walter Biddle Saul, chairman of the committee, pointed out that the budget appropriations are contingent on the governor signing the Ruth Bill, which permits an increase of 10 cents in the school tax rate.

Following is a statement showing appropriations and estimated expenditures for school purposes in 1939 as approved by the Board of Education finance committee:

	Estimated Expenditures 1939 to Maintain School System and Salaries Unimpaired	Recommended Appropriations for 1939 Based on Receipts
Teachers' Salaries	$20,959,798.00	$18,745,314.00
Salaries and Miscellaneous Expenditures, Administration	1,242,862.00	1,150,841.00
Educational material	726,500.00	378,459.00
Operation, School Plant	2,539,332.00	2,021,140.00
Maintenance, School Plant	625,000.00	.....
Equipment	246,000.00	.....
Other Regular Expenditures	1,462,512.46	774,914.46
Debt Service	4,951,056.54	4,793,056.54
Totals	$32,753,061.00	$27,863,725.00

WORLD CONGRESS ON EDUCATION FOR DEMOCRACY OF TEACHERS COLLEGE, COLUMBIA UNIVERSITY

PRESIDENT NICHOLAS MURRAY BUTLER, of Columbia University; Dean William F. Russell,

of Teachers College, and Winthrop W. Aldrich, chairman of the Lay Council of Teachers College, announce the establishment of the Teachers College World Congress on Education for Democracy.

The congress will convene at Teachers College on August 15, 16 and 17, with Dr. Butler as honorary chairman, Dean Russell as chairman, and Mr. Aldrich as vice-chairman. Leading educators, statesmen and citizens of the United States and other democratic countries will be invited to participate.

The purpose of the congress is explained in the following statements:

Statement by President Nicholas Murray Butler

The World Congress on Education for Democracy, planned for next summer under the auspices of Teachers College, may well prove to mark an epoch in the history of our school and college work. The time has plainly come when the outstanding problems of the moment must be met, faced and solved in terms of education by the schools and colleges, unless we are to drift to disaster. We have too long taken it for granted that democracy could continue and extend itself without the aid of constructive thinking and forward-facing interpretation. If education as the greatest moving force in the world is to strengthen and develop democracy, the ways and means of so doing must be considered from every point of view and in the broadest spirit. It is precisely this which the World Congress will attempt.

Statement by Dean William F. Russell

No more important problem faces the United States than the education of the citizen. In all the democracies of the world the problem is acute. People question whether the youth are receiving the training that they should. Some believe that they are getting the wrong education. How is the problem to be solved?

In the dictatorships the Big Man will decide. In a democracy no group of educators should have the power alone to make such a decision. It must come from all the people.

Shall we continue to make this decision by the opposition of forces, by contests among pressure groups in legislatures and school boards? Or shall such a decision come from working, thinking and studying together?

This World Congress, which gives educators and representatives of the lay public the opportunity to consider together the education of the citizen, is an extension of the Lay Conference idea which we at Teachers College have been developing for several years. We have arranged to invite laymen representative of differing aspects of American life in order that together with the educators we may jointly attack the problem which not only is vital to America but crucial in all the democracies of the world.

Statement by Mr. Winthrop W. Aldrich

I agree most heartily with what President Butler and Dean Russell have said. I have believed for many years that the highest obligation of American colleges and universities is the education of men and women for democracy.

In a world to-day divided into two groups, with no possible compromise between the conceptions underlying the democratic system and those upon which the authoritarian systems are based, the meeting of this obligation in full has become of vital importance. I see this coming World Congress as an acceptance on the part of our educators of this responsibility.

If America is to give its citizens the intellectual and spiritual power to guide their own actions and test the actions of their elected governments so that democracy in this country may be preserved and strengthened, it must be through cooperation of lay groups and educational groups such as will be represented in this congress.

I am confident that the responsible leaders of labor, industry and other representative groups of the country will approve of the congress and will assist in every way within their power to make it the success that it deserves to be.

THE RETIREMENT OF THE PROVOST OF THE UNIVERSITY OF PENNSYLVANIA AND THE APPOINTMENT OF HIS SUCCESSOR

DR. JOSIAH H. PENNIMAN, provost of the University of Pennsylvania and John Welsh centennial professor of history and English literature, will retire as professor and as provost of the university on June 30. The title of provost emeritus will be conferred on him.

He will be succeeded as provost by Dr. George Wm. McClelland, vice-president of the university in charge of the undergraduate schools and professor of English, who was elected at a special meeting of the trustees of the university on December 12. He will be the fifteenth provost of the university. Dr. McClelland has been a member of the faculty for twenty-seven years and has been vice-president in charge of the

undergraduate schools for seven years. He will assume office on July 1 next.

According to the official announcement, in addition to electing a successor to Dr. Penniman, who reached the age of retirement during the current academic year after forty-six years of service as a faculty member and administrative officer, the trustees at their special meeting also approved a number of amendments to the statutes of the university. In accordance with the amendments the university will, beginning July 1 next, have a minimum of three vice-presidents instead of four. At that time the office of vice-president in charge of the undergraduate schools will be eliminated.

Part of the work performed by Dr. McClelland in that post will thereafter be the responsibility of the provost, who will therefore have charge, under the direction of the president, of all educational and research activities in the seven undergraduate schools and in the Graduate School of Arts and Sciences, but will be relieved of all direct responsibility for administrative duties not connected with educational work.

Dr. Penniman was graduated from Pennsylvania with the degree of bachelor of arts in 1890 and was appointed instructor in English in 1892. He became assistant professor of English literature and vice-dean of the college in 1896, and was made dean of the college in the following year. In 1903 he was appointed professor of English literature. He resigned as dean in 1909 but retained his professorship of English literature. In 1911 he was elected vice-provost of the university and four years later he was named lecturer on the English Bible. He became acting provost in 1920 and was elected provost in January, 1923.

Nine months after his election, he also was elected president of the university and he continued to serve both as president and provost until 1926. In that year the office of president was abolished by the trustees and was not restored until 1930 when Dr. Thomas S. Gates was elected to the post.

During Dr. Penniman's term there were established the School of Fine Arts, Courses for Dental Hygienists, the Graduate Courses in Business Administration, the Moore School of Electrical Engineering, the William T. Carter Foundation, the Graduate Hospital, the University of Pennsylvania Press and the University Placement Service.

Important additions to the university's physical plant also were made, among them being Bennett Hall, the William B. Irvine Auditorium, the Laboratory of Anatomy and Physiological Chemistry, the Palestra and Hutchinson Gymnasium, the Graduate Hospital, the Maloney Memorial Medical Clinic and the steam plant on the Schuylkill. In addition, Franklin Field Stadium was enlarged.

Dr. Penniman is known as an authority on English literature and on the English Bible and is the author of "The War of the Theaters"; "A Book About the English Bible," and of articles on literary and educational topics.

EDUCATIONAL NOTES AND NEWS

DR. ABBOTT LAWRENCE LOWELL, president emeritus of Harvard University, celebrated his eighty-second birthday on December 12.

DR. WILHELM PAUCK, professor of church history and historical theology at the Chicago Theological Seminary, has been appointed Dudleian lecturer at Harvard University for the current academic year. He will deliver the lecture on April 18 on the subject, "Revealed Religion." The Dudleian lecture is the oldest foundation at Harvard. It was established in 1751 under a bequest of Paul Dudley, of the class of 1690, a fellow of the college and Chief Justice of Massachusetts Bay.

FLOYD R. ADAMS, for the past six years superintendent of schools at Marshall, has been appointed director of the Teacher Personnel Division in the Minnesota State Department of Education. He will be responsible for direction of the Certification Division and Teacher Placement Bureau. He will take up the work as soon as arrangements for his release at Marshall can be completed.

CARL C. CRESS, formerly principal of Harding Junior High School in Oklahoma City, has been appointed supervisor of curricula and instructions in the Riverside City Schools, California, the position formerly held by Dr. F. G. Macom-

ber, who has joined the department of education at the University of Oregon.

DR. D. L. EATON, head of the department of physics and mathematics of Battle Creek College when it suspended last summer, has become an associate professor of physical science at Northern Illinois State Teachers College at De Kalb. Dr. Eaton taught at Indiana Central College in Indianapolis for twenty years before going to Battle Creek in 1931.

DR. DONALD H. WEST has recently been added to the faculty of the Chicago Teachers College, where he will give classes on general chemistry and in inorganic analysis.

ARCHIBALD MACLEISH, who was recently appointed to the newly established position of curator of the Nieman Collection of Contemporary Journalism at Harvard University, has taken up his work. He will supervise a collection of general literature on modern journalism and of micro-films at the Widener Library.

THE REV. THEODORE OTTO WEDEL, secretary for college work on the National Council of the Protestant Episcopal Church since 1934, has accepted appointment as director of studies at the College of Preachers associated with Washington Cathedral. He will assist Dr. Powell in preparing for clergy and lay conferences and in sermon criticisms and supervision of the library and editorial publications.

J. WICKHAM MURRAY, secretary of the British Association of Teachers in Technical Institutions, has been appointed an official for higher education by the executive of the National Union of Teachers.

THE title of professor emeritus of imperial history in the University of London has been conferred on Dr. A. P. Newton on his retirement from the Rhodes chair of imperial history at King's College.

IT is reported in the daily press that it has been proposed to nominate Dr. Harold W. Dodds, president of Princeton University, for governor of the State of New Jersey following the precedent set by the nomination and election of Woodrow Wilson in 1910.

DR. GLENN FRANK, who was displaced as president of the University of Wisconsin some two years ago, has denied a published report that he might like to return to this position, now held by Clarence A. Dykstra. Dr. Frank, who is now chairman of the national policy-making committee of the Republican Party, is reported to have said: "Let me say that I do not want to return to the presidency of the University of Wisconsin and would not, under any circumstances, return to it. Since January, 1937, the forces of three distinguished universities have discussed with me the possibility of my assuming their executive direction. If I had any intention of returning to the university field I would have considered these posts."

DR. PAUL V. MCNUTT, from 1917 until his election as governor of Indiana in 1933 a member of the faculty of Indiana University and for eight years dean of the Law School, will, it is said, retire soon as United States High Commissioner in the Philippines. He has held that post since February, 1937. It is reported in the daily press that Dr. McNutt had been under consideration for the presidency of Indiana University and also as the Democratic nominee for the presidency of the United States.

THE Pacific Coast Association of Collegiate Registrars, meeting in Los Angeles, under the presidency of Dr. E. M. Pallett, of the University of Oregon, elected John A. Anderson, registrar of the Pasadena Junior College, president.

VIRGIL L. FLYNN, superintendent of schools of Kanawha County, Charleston, W. Va., has been elected president of the State Education Association of West Virginia; Dr. Gail Holliday, who teaches science in Wheeling High School, has been elected vice-president.

FRANK COULTER, of Joplin, was elected president of the Missouri Music Educators Association at a business session of that organization on December 2.

DR. W. D. FUNKHOUSER, dean of the Graduate School of the University of Kentucky, has been reelected secretary-treasurer of the Conference of Deans of Southern Graduate Schools at Durham, N. C.

DR. JOHN L. ELLIOTT, senior leader of the New York Society for Ethical Culture and founder of the Hudson Guild Settlement House

in the Chelsea district, was the guest of honor on the occasion of his seventieth birthday on December 3 at a luncheon in the Hotel Astor. Mayor La Guardia, of New York City, was the principal speaker.

DEDICATION of a memorial plaque to Dr. Adelbert G. Fradenburgh, the first dean of Brooklyn College, took place on the afternoon of December 14. Borough President Ingersoll, Arthur M. Howe, formerly chairman of the administrative committee of the college, and Louis H. Pink, state insurance commissioner, were among the principal speakers. The plaque was given by students and members of the department of history.

DR. JAMES PIERPONT, since 1898 until his retirement with the title emeritus in 1933 Erastus L. De Forest professor of mathematics at Yale University, died on December 9 at the age of seventy-two years.

DR. E. L. HENDRICKS, president emeritus of Central Missouri Teachers College at Warrensburg, Mo., died on November 23. In 1894 Dr. Hendricks became superintendent of schools for Johnson County, Ind., and in 1901 superintendent of schools in Delphi, Ind. He was appointed supervisor of schools in Indianapolis in 1908 and president of Central Missouri State Teachers College in 1915.

DR. DANIEL L. WALLACE, from 1920 to 1931 professor of chemistry at the University of Pennsylvania, with which he had been associated for fifty-one years, died on December 5 at the age of seventy-eight years.

DR. JAMES W. GARNER, head of the department of political science of the University of Illinois, died on December 9. He was sixty-seven years old.

DELL R. MATHEWS, for fourteen years an inspector for the Illinois State Department of Education, died on December 10 at the age of fifty-seven years.

DR. CHARLES H. THURBER, who was an editor with the publishing house of Ginn and Company from 1900 to 1932, when he retired, and a member of the firm for twenty-eight years, died on December 9 at the age of seventy-four years. Dr. Thurber was registrar and secretary of Cornell University from 1886 to 1888, later spending two years in Europe as a special agent of the U. S. Bureau of Education, following which he became instructor at Cornell University. He was professor of education at Colgate University from 1893 to 1895 and associate professor of pedagogy at the University of Chicago from 1895 to 1900. Dr. Thurber was also editor-in-chief of "Johnson's Universal Cyclopedia" from 1892 to 1894, and editor of the *School Review* from 1892 to 1901. He was a member of the visiting committee of the board of overseers of the Graduate School of Education of Harvard University.

DR. THOMAS DOSSING, of Copenhagen, originator of the Danish state library system, known for his work in adult education, is visiting the United States.

DR. W. H. COWLEY, who was inducted as president of Hamilton College in October, was the guest speaker at the annual meeting of the Phi Beta Kappa alumni chapter of New York on December 13. His address was entitled "Five Nineteenth Century Social Forces Influencing Higher Education."

DR. ERNEST VICTOR HOLLIS, of the School of Education of the College of the City of New York, addressed the nineteenth annual meeting of the Association of University and College Business Officers in Pittsburgh on December 5. He spoke on "Philanthropy's Future in Higher Education."

SIR DENISON ROSS, who recently retired as head of the School of Oriental Studies in the University of London, will deliver a series of Lowell lectures in Boston. Sir Denison gave an address on December 16 entitled "This Language of Ours," under the auspices of Northwestern University.

DR. FRITZ KARSEN, formerly professor of pedagogy at the University of Frankfort and the University of Berlin, founder and first president of the Alliance for Progressive Education in Germany, spoke at New York University on "The Progressive Education Movement in Germany and Its End" at a recent meeting of the metropolitan chapter of the American Association of Teachers of German.

A DISCUSSION of "The Relation of Higher

Education to China's Rehabilitation" was held on December 9 following a dinner at the Hotel Commander in Cambridge. It was attended by representatives of New England colleges having a vital part in the work of the colleges in China. These colleges are Yenching College for Women in Peking; Yenching University; Ginling College in Nanking and Chengtu; West China Union University and the College of Science in Hua Chung College in Kwilin Kwangsi. President Mildred H. McAfee, of Wellesley College, presided, introducing the guests from China: Mrs. T. D. Macmillan, Roy C. Spooner, Miss Imogene G. Ward, Oliver J. Caldwell and Dr. Leonard Hsu.

DR. STANHOPE BAYNE-JONES, dean of the Yale School of Medicine, and Dr. Charles Sidney Burwell, dean of the Harvard Medical School, were elected trustees of the Josiah Macy, Jr., Foundation at a meeting of the trustees held on December 5. The foundation was established in 1930 by Mrs. Walter G. Ladd in memory of her father. Officers reelected included: Dave Hennen Morris, *chairman of the board;* Dr. Ludwig Kast, *president;* J. Macy Willets, *secretary,* and Robert E. Allen, *treasurer.* Lawrence K. Frank, a former assistant to the president, was appointed *vice-president.* Other members of the board of trustees include: Professor John Dewey, Dr. Harry Emerson Fosdick, William W. Hoppin, Lawrence Morris, Dr. Willard C. Rappleye, Dean Sage, Paul H. Smart, Edwin S. S. Sunderland and Dr. Samuel Trexler. The foundation, which helps to support medical research, announced that during the present year it had made grants amounting to $175,420 to thirty institutions in the United States and Europe. Mrs. Ladd, it was announced, had made a "substantial" gift to the foundation.

IN the article entitled "College Plans and Systems" by Dr. Karl T. Compton, president of the Massachusetts Institute of Technology, printed in the issue of SCHOOL AND SOCIETY for November 12 (Volume 48, Number 1246, page 611 at the bottom of the first column), the quotation attributed to Aristotle should have been attributed to Francis Bacon.

THE National Council of Parent Education will hold its sixth biennial conference on February 21, 22 and 23 in Detroit, with headquarters at the Statler Hotel. A program of general and special group sessions is planned. Such topics as "What Lies Ahead for the American Family and What Are the Implications for Education," "What is the Responsibility of Government for Policies that Affect Family Life" and "New Sources of Knowledge and Points of View Regarding Family Life" are among those scheduled for discussion at general sessions. Special group sessions will consider such topics as methods in family life, education at various levels and through various agencies and the contributions of various arts, sciences and professions to family life education. Leaders in education, government, social work and the professions will speak. The conference will be open both to members and to non-members. A joint conference with the Progressive Education Association has been arranged for February 23. Dr. Robert G. Foster, of the Merrill Palmer School, is in charge of the program and of local arrangements for the conference.

THE American Association for Health, Physical Education and Recreation will meet next year in San Francisco from April 3 to 6, under the presidency of Dr. Frederick W. Cozens, professor of physical education at the University of California at Los Angeles. Louise S. Cobb, assistant supervisor of physical education for women at Berkeley, is president of the Southwest District of the association. More than 3,000 delegates are expected to attend the various sessions. The association is a department of the National Education Association, with 9,000 members. There are twenty-two sections and in addition to the general meetings, there will be two sessions of each section during the convention. State Directors of Physical Education, City Supervisors of Physical Education and the Women's National Athletic Association plan to meet simultaneously with the association.

THE Yale School of Music announces an extension of its courses in the history, literature, theory and practice of music to be given by Dr. Leo Schrade, formerly of the University of Bonn. One group of courses, which will lead to the degree of bachelor of music, will give the student a grounding in the aims and methods of musical research and will lay a foundation for

independent work. Students will also be led to consider music in relation to other fields of human activity, intellectual, social, artistic and literary. A second group of courses will lead to the degree of master of music, and will be open to candidates for the degree of master of arts in the Yale Graduate School as well as to students in the School of Music. In these courses, more advanced work in research will be undertaken, with guidance in the interpretation of results.

A WIRELESS dispatch to *The New York Times* from London, dated December 5, reads: Whittingehame House, Scottish house of the late Lord Balfour, who gave his name to the declaration that held out hope of a Jewish national home in Palestine, has been offered by his nephew, Viscount Traprain, who inherited the estate, as hostel for refugee Jewish children from Germany. Arrangements are being made by the Jewish community in the east of Scotland for the transport and maintenance of about 200 children there. It is stated that Whittingehame affords an opportunity for training the children in farming with a view to their later settlement in Palestine.

THE London County Council, according to the *Times*, is providing facilities for healthy outdoor recreation during the dark winter evenings, which will take children and young people away from the dangers of playing in the streets. Last winter, as an experiment, the Council floodlit a children's gymnasium and a dry playground at Eel Brook Common, Fulham. The scheme was such a success that it is to be extended to eight more places this year. The first of these is Tabard Garden, Southwark, where Mrs. Hugh Dalton, chairman of the parks committee, inaugurated the floodlighting on Monday, November 28. Subsequently the children's gymnasium will be open from dusk to 6:30 P.M. The dry playground will be open for ball games from dusk to 6:30 P.M. for school children, and from 6:30 P.M. to 9 P.M. for older players. Floodlighting will shortly be started at seven other playgrounds.

IT is reported in Geneva that steps are being taken in Berlin to increase the number of National-Socialist students to be sent from Germany next year to Swiss universities. They will receive government grants and will be trained for taking part in the so-called "community of work in Switzerland."

THE King of Rumania, it is officially announced, has instructed the city of Bucharest to grant an important site to the Anglo-Rumanian Society. On this the new British Institute will be built. The King has taken this step in order to encourage closer cultural relations between England and Rumania. The British Institute has grown out of a school for teaching English, organized by the Anglo-Rumanian Society, and the number of students enrolled has risen from 300 to 2,400 during the last three years. The Anglo-Rumanian Society was founded in Bucharest in 1927, and King Carol is its patron. It has been organized and run by Rumanians, and is now working in close collaboration with the British Council, which is assisting the new British Institute in every way.

SHORTER ARTICLES AND DISCUSSION

THE FUNCTION OF A MATHEMATICS DEPARTMENT IN A TEACHER-TRAINING INSTITUTION

DURING the past few years many articles have appeared in various educational magazines concerning redirecting, reorganizing or seeking new points of view in teacher-training courses. Many of the valuable suggestions offered are of a very general nature; dealing mainly with an "over-all" point of view in teacher training. These general suggestions (or objectives) are valuable as they should give the various units in the teacher-training institution a common direction. However, it remains for each unit within the institution to ask the question, "How does the work in our department function in achieving these common goals in teacher-training education?" Also, "Does the work in this department correlate with that of the other departments in the institution in making the teacher-training program function as a unit?"

That these questions are important is immediately obvious. An institution functions in the

teacher-training field by assigning certain areas in teacher training to various departments. These areas should be correlated interdepartmentally and intradepartmentally. The parcelling out of certain subjects to departments tends to produce compartmentalized teachers. This compartmentalization tendency raises many questions which can not be discussed here.

A few of the main functions of a mathematics department in a teacher-training institution will be discussed in the succeeding pages. Undoubtedly the existence of such a department in the teachers college can be justified, although it is extremely doubtful whether mathematics has been made sufficiently flexible to fit into the more acceptable objectives of modern education, especially teacher education. One need not go far for further evidences of this unflexibility. The junior high school, senior high school and the junior college all contain mathematical curricula that have not been adjusted to mass education.

As regards the training of mathematics teachers, mathematicians, too often, dismiss the question of improvement in the teaching of mathematics with some remark to the effect that teachers should know more mathematics. This would undoubtedly help in solving our problems, but it is not the whole problem. The problem consists in training and sending out teachers who realize that, in the grades, junior high school, and, to some extent, in the senior high school, it is not mathematics as mathematics that is important but how this mathematics assists in interpreting the problems of everyday life. The teacher must realize that one can not take mathematics out of a total situation and expect it to function properly. The greatest weakness of our teachers is the inability to see mathematics in the total situation and in its proper perspective in that situation. Insurance to the average arithmetic teacher means working with numbers. She forgets that the heart of the topic is not in the mathematics of insurance. The heart is in insurance as a social institution, its interpretation and its function. In this mathematics plays an important part, but it is not the most important part.

THE TEACHER AS A MEMBER OF A PROFESSION

A very common attitude found in teacher-training institutions is that a department of mathematics has no responsibility in the training of teachers unless they are to be teachers of arithmetic or of mathematics in the higher grades. This is the traditional attitude. The task of teacher training is seen from the point of view of but one subject rather than from the point of view of the teacher functioning in an entire system. In this way the training of teachers is broken up in the usual compartmentalized, watertight sections. No wonder compartmentalized teachers are produced. Their training is compartmentalized. Primarily the function of departments in a teacher-training institution is the training of teachers, secondarily the training of mathematics teachers, social studies teachers, science teachers, etc. This yields a common denominator of functions for all departments over and above the special functions in specialized fields.

As a member of a profession the teacher should have a knowledge of subject-matter. This function is not limited to the training of mathematics teachers in the usual sense of the word. The teaching of mathematics begins in the kindergarten, not in the junior high school. This places some of the responsibility of training the grade teacher on the shoulders of the mathematics department. This training does not consist of the usual course in college algebra. Algebra has very little place in the training of the grade teacher. The teacher's training should consist of a mastery of courses dealing with insurance, investments, social statistics, budgeting, banking, etc., as total situations with the secondary emphasis on the mechanics of mathematics and the primary emphasis on the way mathematics helps interpret the whole situation. The work of the prospective teacher should also include one or two courses dealing with the basic ideas of mathematics and how they function in the civilization of to-day.

In these courses the grade teacher would find sufficient material in her undergraduate work to equip her reasonably well to teach arithmetic. The teacher in the junior high school and even in the senior high school would find these courses of immediate value in their teaching, as well as informational, and containing a point of view which every graduate of a teacher-training institution should possess.

These courses should be organized, and taught,

in such a way that the prospective teacher would realize that the primary objective of the course exists outside of mathematics. However, she should also realize that mathematics is an important avenue over which one must travel in order to grasp the purpose of many of our social institutions and their implications to mankind. This point of view emphasized in teacher-training courses would greatly aid the institution in training its teachers to see the basic purpose of mass education. It would aid the prospective teacher in getting a proper perspective of the part played by mathematics in the life of the average individual. Once this point of view is grasped, the teacher would not be inclined to go out into the schools and emphasize the mechanics of the subject to the exclusion of those things which give the subject purpose and meaning.

The teacher should be acquainted with the various techniques of the teaching profession. This includes classroom management, testing, the construction of tests, conducting activities, etc. This applies to the work of the junior and senior-high-school teacher as well as to the work of the grade-school teacher. The matter of testing and its functions is too little emphasized in the usual mathematics department. Other departments may discuss the general theory of tests, but it remains for the mathematics department to make specific applications of this general theory to mathematics. The improvement of instruction carries with it the improvement of testing both in collegiate and elementary work.

The Teacher as an Individual

This is an area that has been little recognized, in any systematic way, by departments of mathematics in any line of work. This complete disregard of the individual and his problems of learning has carried over into the secondary, and primary, schools to the detriment of mathematics. How can a teacher fit into the school systems of to-day when she has been trained in an atmosphere of sanctimonious reverence for mathematics with the resulting disregard for the individual's welfare? Departments of mathematics have certain obligations to the primary, elementary, junior-high-school and senior-high-school teachers as individuals, as well as obligations to this group as members of a profession. This obligation does not consist of teaching them to solve more equations but consists of teaching them fundamental concepts of informational and sociological value. Not that mathematics does not contain any of these values; on the contrary, it is rich in these values, but is at present not organized along lines which would justify the average teacher spending one or two semesters in the department. An attempt will be made, in what follows, to outline a few ways in which a department of mathematics could function in the training of teachers as individuals.

All teachers must have command of the fundamental processes. In this area might well be included the fundamentals of arithmetic, intuitive geometry, the basic ideas of the formula and graph as now found in the junior- and senior-high-school courses and the elements of statistics. The objectives of this sub-area are not to be attained in any one course, such as a drill course in arithmetic or a course in arithmetic for teachers. These objectives are imbedded in the entire mathematics program that has been organized for the teacher. Any course organized to attain these objectives must have a body—a core. This core is not found, directly, in the numbers, and symbols, as such. It is found in the broader setting of such topics as insurance, social statistics, mathematics of finance (closely tied up with actual "teacher problem"), and so on throughout the entire range of problems which affect the life of the teacher as an individual. In these settings the body and the point of reference is the individual and his welfare in society, not the mathematics and the welfare of mathematics. In this procedure mathematics is an aid in reaching the goal of the individual as a whole—of the teacher as a "whole individual."

This requires marked changes in the point of view of the usual mathematics department, in many ways. The most important of these changes is the recognition on the part of departments, that they have responsibilities in the training of teachers other than teachers of mathematics. Another point of view to be changed is the recognition of the need for changing the central core in the basic courses offered for the training of arithmetic teachers. Yet another attitude to be changed is the aversion to mentioning anything that looks like a problem in fractions in the college class. The problem in fractions is the incidental part of the program,

yet it is an integral part. It is a situation that must be cleared up before the primary objective of training individuals that will function in a society, and in the school system, can be reached. It would be well if the colleges would absorb some of the basic philosophy of the elementary and secondary schools—that of accepting the individuals as they come to the colleges, admittedly unprepared, and assist them in overcoming specific weaknesses, in so far as possible.

THE PROSPECTIVE TEACHER AS A STUDENT

There are several ways in which a department should function in this area, however, space will permit only a brief discussion of one of the more important factors.

The members of a department should teach so that the student realizes that the primary concern of the instructor is the individual and his welfare. This implies fitting the material offered in the courses to the type of student enrolled as well as fitting the material to the future needs of the student. There is plenty of evidence that little has been done in either of these two fields. For evidence that the material is not fitted to the future needs of the student, one need only glance at the courses offered in various colleges. The college of engineering, the teachers college, the liberal arts college, the business schools, courses for medical doctors, nurses, etc., all have the standard courses in mathematics. This uniformity is the result of the assumption that the mathematics required in the engineering profession is the same as that required in the teaching profession which, in turn, is the same as that required for the medical profession, and so on throughout the whole gamut of professions. This assumption certainly can not be justified. The teacher is interested in portraying mathematics as a "mirror of civilization," as a mode of thinking that has set man apart from the animals, and, as such, is an indispensable tool for every member of society. The engineer is interested in mathematics mainly as a tool. This difference in point of view requires a different approach. The mathematics of the engineer and the mathematics of the teacher certainly will have things in common. But there are many topics, methods of procedure and points of emphasis that are not common to the two types of courses.

In addition to fitting the material to the type of student enrolled, the method of presentation and classroom atmosphere should be one that could bear reproduction on the level in which the teacher is to work. In the college classroom, as well as in the classrooms of the secondary schools, the atmosphere is often one of pure drill. An atmosphere of drill is too easily copied by the teacher when she becomes responsible for conducting a class in the high school or in the grades. The methods and attitude found in the college classroom are probably more important in determining the methods used in the secondary schools than any of the methods courses offered in the various departments of the institutions.

H. VAN ENGEN
IOWA STATE TEACHERS COLLEGE,
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THE RURAL HIGH-SCHOOL PUPIL AND THE CURRICULUM

IN every educational meeting that is being held by a group of high-school teachers or administrators, the curriculum of the school is the big issue.

There have been various ways suggested by educational leaders as to how the curriculum should be set up or revised. Some have taken the attitude of the armchair-philosopher, which is to set up an educational philosophy for the secondary school in terms of the past. Other writers have said the proper way to set up or revise the curriculum for the secondary school is to set up some sort of a steering committee composed of high-school principals or teachers from large high schools, the thought here being that if a curriculum is set up for the large high school, it can be inherited by the small high school.

There is a third group of secondary school curriculum advocates, who believe that the curriculum of the secondary school can be set up or revised by starting with the experimental high school of the home university or teachers college. This group feels that the only worthwhile suggestions in the way of secondary school curriculum revision should come from the laboratory school, and whatever works for the first time in the experimental school will work in any school, regardless of size or location. Such a notion is a fallacy.

It is true that all the above methods of curriculum planning are helpful, but all of them taken together only scratches the surface of the problem.

The curriculum of the secondary school is no trite affair. It is the life of the school and can not be planned in a single year, let alone a few weeks, as is the case sometimes. We must clearly understand that the curriculum is something that requires many ideas, many methods, much research work and a great deal of common sense before the first plans can be formulated.

If one function of the secondary curriculum is to try to meet the needs and desires of boys and girls, in terms of a preparation for life's work, then it might be well to start with the pupil and find out what his wants, needs or desires are.

The writer has just completed a survey of some 980 high-school seniors located in rural high schools, by means of a questionnaire conducted by personal interviews with these pupils. The survey was planned for these purposes, *viz.:* (1) To find out what the high-school boy in the rural high school desired to study while in school. He was asked to list the high-school subjects in order of his preference or desires, regardless of whether such subjects had been or were required for graduation. (2) What subject did he least desire to study. (3) What subjects helped him most in his extra-curricular work. (4) What subjects would help him most to take up his work outside of high school when he had graduated. (5) What subjects would help him most if he did not get to complete the four years' work.

The subjects most preferred by the pupils were: English, 85 per cent.; typing, 67 per cent.; agriculture for boys, 47 per cent. (52 per cent. of the pupils surveyed were girls), so there were only 1 per cent. of the rural boys in the high schools who did not prefer agriculture. Thirty-eight per cent. of the girls preferred work in home economics, 45 per cent. preferred business law, 39 per cent. preferred music and 26 per cent. desired algebra.

For the least desired subjects as indicated by the survey were Latin, French, geometry, ancient history and physical geography. The pupils were asked to list the subjects that they suggested should be dropped from the curriculum, and 92 per cent. suggested dropping all foreign languages, and 82 per cent. suggested dropping geometry, while 53 per cent. suggested dropping algebra and 45 per cent. would drop ancient history.

Among the replies as to what subjects would be the most helpful after graduation, 49 per cent. said English would be, 31 per cent. indicated that home economics would be, 32 per cent. of the boys favored agriculture and 22 per cent. indicated typing to be most helpful.

In ranking the subjects the students ranked them in this order—English, home economics, agriculture, typing, business law, civics, history, mathematics, business arithmetic; music, history and foreign languages were ranked last.

Subjects that helped students most in extra-curricular work were English, dramatics or speech, business law and history.

In reply to the questions asked as to what subjects should be required for graduation, 61 per cent. favored English, 32 per cent. favored home economics (girls), 31 per cent. favored agriculture (boys), and only 8 per cent. thought that history or civics should be required. There were no students that wanted to make Latin or French required for graduation.

In reply as to what subjects would be most helpful if the student did not complete high-school work, English led, with agriculture and home economics a close second.

It is quite obvious from this sampling of high-school students of the rural high school that such required subjects as algebra, geometry, ancient history and the foreign languages are no longer meeting the needs of rural boys and girls and should no longer be in the required list of subjects for graduation.

It is not considered that this survey is perfect nor that it is the only basis for setting up the curriculum for the rural high school; but it is one of the many ways that curriculum workers should use in order to determine the needs of the high-school boy and girl. It might help the educational theorist who is advocating certain subjects for the high school, if he too gave this method more attention when trying to plan the curriculum for the rural secondary school.

J. ROY LEEVY
SUPERINTENDENT OF SCHOOLS,
WESTFIELD, ILLINOIS

BOOKS AND LITERATURE

TWO AUTOBIOGRAPHIES

Things I Cannot Forget. By P. B. BALLARD. London, University of London Press, 1938. 286 pp. 8*s.* 6*d.*

An Inspector's Testament. By F. H. SPENCER. London, The English Universities Press, Ltd., 1938. 319 pp. 10*s.* 6*d.*

THE late Dr. Demiashkevich in his book recently published on "The National Mind" devotes a chapter to a discussion of the Englishman as *Homo biographicus.* The two books under review are the autobiographies of two English educators whose recent retirement virtually marks the end of an era in English education. The authors started their careers at a time when the opportunities for secondary education for boys and girls of the working classes were negligible, when even public elementary education for the children of the working classes had been introduced about the time that they were born, and when the only opportunity open to poor boys of parts was to enter the teaching profession through the gateway of a pupil teachership. This opportunity Dr. Ballard and Dr. Spencer seized, and their careers, as romantic as any in American education, illustrate the fact that an open road existed for ability in England before the system of education was reorganized at the beginning of the present century. But it was a rough road, and only the best survived to make their mark on English education.

Both Dr. Ballard and Dr. Spencer began their careers as pupil teachers. This meant that they began to teach at the age of fourteen more or less under the supervision of school principals, who were also responsible for guiding them in their general studies. Examinations at the end of his period of apprenticeship would determine whether a pupil teacher would enter at the lowest level of the teaching profession or be selected for further training. The two authors not only belonged to the second group but ranked high enough in the examinations to be accepted as students in the famous Borough Road Training College. The story of "Borough Road" has not yet been written as it should be to show the contribution that it made through its graduates to English education in the last two generations.

The story of this period is the story of the lives of Dr. Ballard and Dr. Spencer. Both started as elementary school classroom teachers; both rose through the ranks—the one to the position of inspector, the other of chief inspector under the London County Council Education Committee, after several years as an inspector under the National Board of Education. Both had rich experiences and both have left their marks on English education. Since their day the way has been smoothed and regularized for poor boys and girls of ability, although the amount of "wastage" of ability is still far greater than either of them would like to see in the English system of education. The old system did succeed in providing England with a succession of leaders in education at a time when the reorganization of the system stood in need of them. It remains to be seen whether the new system will produce men of that sympathetic insight and understanding into the problems of education which they developed in their own struggles to attain it. The reader of the two autobiographies must agree with Dr. Spencer's statement in the Preface to his book that "No one, with my history, which, in its essentials, is that of thousands of others, will ever again fill the posts I filled. Our type of generation is worth a record." And both records are worthy of their authors. They describe in the lives of two men what G. A. N. Lowndes recently described as "The Silent Social Revolution" of England.

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QUOTATIONS

SCIENCE AND THE DICTATOR NATIONS

BEFORE the rise of Stalin, Mussolini and Hitler, Sir Richard Gregory's lecture on the "Cultural Aspects of Science," delivered last week at the Carnegie Institution of Washington, would have been regarded as an interesting, scholarly historical sketch with no obvious rela-

tion to life. To-day, with dictators dominating not only art and religion but science, his interpretation strikes home because it leaves no doubt about the interdependence of science and democracy.

In the beginning the state dominated science as it also dominated religion. Now the dictators have turned back the calendar some thousands of years. They are the Pharaohs of our day, rulers who would stylize art and science as they were stylized long before the Pyramids were built, to end in stagnation and sterility. If many theoretical scientists still refuse to mingle with the crowd in the market place it is because priestly seclusion is in the ancient tradition. With science frozen under a dictator we shall still have research in chemistry, biology and engineering to meet the needs of the state, but research which applies only to old principles and doctrines or officially approved new ones. Fortunately, even the theorists are beginning to realize that they can not divorce their work from its social implications and that it is their duty to assist in what Sir Richard calls "the establishment of a rational harmonious social order out of the welter of human conflict into which the world has been thrown."

Though American scientists have been slower than their English brethren to resist the threat of dictatorship, the American Association for the Advancement of Science did resolve last December that "science is wholly independent of national boundaries and races and creeds and can flourish only when there is peace and intellectual freedom." Something more militant is needed. Professor Franz Boas provides it in the form of a manifesto, published to-day, which is signed by 1,284 scientists, among them three Nobel Prize winners. It defends democracy "if we are to avoid the fate of our colleagues in Germany, Austria and Italy," and it recognizes "the moral obligation to educate the American people against all false and unscientific doctrines."

Certainly something of value can be accomplished here. When a Mussolini talks balderdash about the purity of an Italian race, or some Soviet commissar decides that the laws of genetics must be set aside because they conflict with Karl Marx, science ought not rely on a few letters of protest in a newspaper or on sporadic editorials and articles in a few professional journals. It is the plain duty of somebody to promulgate a simple, dignified, dispassionate statement which leaves no doubt where science stands. With more than twelve hundred signers to his manifesto, most of them men of commanding position in twenty fields, Professor Boas should find no difficulty in forming a dozen authoritative committees to pass upon the rasher utterances of dictators and thus spread the truth. And it is only the truth that concerns science.—*The New York Times.*

SIXTY-FOUR members of the National Academy of Sciences and 1,220 other American scientific workers of the highest standing have signed their names to the stinging manifesto in condemnation of "the Fascist position toward science" made public yesterday by Professor Franz Boas. In itself and in its list of signers it is a remarkable document—an indictment all the more impressive because it is delivered by citizens of that great republic of the mind where such instruments are rarely drawn. With its sentiments only those who have already surrendered their souls to the totalitarians could disagree. Yet one striking thing about it is the fact that this manifesto of scientists is not scientific. "We firmly believe that in the present historical epoch democracy alone can preserve intellectual freedom" is not a scientific theorem, but the statement of a passionate, and therefore unscientific, conviction.

Men like the exiled German thinkers, the manifesto declares, "must be defended in their right to speak the truth as they understand it. If we American scientists wish to avoid a similar fate, if we wish to see the world continue to progress and prosper, we must bend our efforts to that end now." It is not an engineer's, or a physician's or even an economist's unbiased analysis of means and ends; it is the deeply emotional response of men and women who see the principles they work and live by suddenly threatened by a strange, sudden menace. The fact that they feel those principles which have made the glories of modern science—principles of free inquiry, of original hypothesis, of love of truth for its own sake, to be menaced is important; the fact that they defend them, not with the dispassionate tools of scientific inquiry but with burning conviction, not with logic but with faith, is impor-

tant, too. For it is a reminder that in the affairs of men, even in their most rigorously scientific affairs, conviction is necessary; that behind the coldest of scientific inquiry there lies a faith, and that passion is still required of us if in this difficult world we are to defend the things, even passionless truth, that really matter to us.—*The New York Herald Tribune.*

REPORTS

ACTIVITIES OF THE CARNEGIE CORPORATION

THE distribution of funds totaling $3,830,135 by the Carnegie Corporation of New York "for the diffusion of knowledge" in the United States and the British Dominions and Colonies is announced by Frederick P. Keppel, president of the corporation. Of this amount $571,600 was given for library interests; $180,500 for adult education; $646,125 for the arts; $554,660 for research studies and publications, and $1,877,250 for general educational programs.

During the fiscal year Mr. Keppel completed fifteen years' service as president of the corporation. In the report he notes "a growing desire on the part of the thoughtful public for some understanding of fundamental educational problems" and takes to task the educational technicians "who, like all technicians, tend to think first of influencing one another, and easily slip into the use of a technical jargon which is confusing and exasperating not only to the layman but also to the educator of broader interests. The educational evangelists are also responsible for much confusion and misunderstanding. Particularly in view of what is going on before our eyes elsewhere in the world to-day, every American must welcome the fullest discussion of the relations between our education and our social order. He must wish to hear and to understand both those who in all sincerity would assign to education and to educators a much more active part in influencing that order, as well as those of opposite opinion. Unfortunately the utterances of the educational evangelists are to-day often just about as cryptic as those of the educational technicians."

THE GRADUATE SCHOOL

Mr. Keppel reported that a grant had been made to the Carnegie Foundation for the Advancement of Teaching for a study of graduate education, to be carried on in cooperation with the deans of five graduate schools. "For long years," he says, "the graduate school has been the sacred cow in American education," and has been "worshipped rather than studied, understood and improved. As a vested interest it has demanded and received without question financial support beyond that provided for any other branch of learning with the single exception of modern medicine.

"Of course, the whole structure was originally reared not for vocational purposes but in the interest of scholarship and research, and it is fair to ask how well the graduate school of to-day is functioning as a center of scholarly inquiry, and in the preparation of the oncoming generation of trained inquirers. Much admirable research is going forward in our universities, and many young men and women are receiving an excellent preparation for later independent work. But we may fairly ask ourselves whether almost without exception this happens only where the energies of the institution are devoted to attracting and holding a few first-rate individuals rather than to building up an elaborate pattern of courses and regulations, and whether in general it is not due rather to the fact that first-rate creative minds are drawn to the academic career than to any virtue in the present-day machinery of the graduate school. Making due allowance for the number of individuals involved, it might be profitable to compare the record of our graduate schools in these matters with that of any one of half a dozen medical schools or of as many agricultural experiment stations."

FUNDS FOR PHILANTHROPY

He states that the "long-time curve of funds available for educational, scientific and cultural purposes is still rising. This is not to say that the amount of new money coming from large gifts and bequests is also rising. The evidence is that for the time being it is not, and the philanthropic pessimists may be right in their statements that even the present diminished flow

is derived from fortunes made under conditions which no longer exist and which will never return." His position is based on the belief that current contributions from public funds, and from industrial concerns including General Motors, General Electric, Westinghouse, du Pont and Squibb and Sons, plus the cumulative contributions of private funds, are taking over a steadily increasing share of the total load, and that this increase is more than compensating for the current drop in new large contributions from private sources.

PROPOSALS RECEIVED AND GRANTS MADE

During the fiscal year 1,329 proposals were considered by the corporation, of which 224 received favorable consideration. The total number of grants to individuals was larger than in any previous year, although Mr. Keppel gives warning that "the corporation has no desire to release universities from the responsibility to provide reasonable research facilities for their members, nor to subsidize further the current manufacture of the Ph.D. degree."

Among the funds voted by the trustees during the year to institutions in the United States were endowment grants of $150,000 each to Radcliffe College and Barnard College; a grant of $250,000 to Columbia University for its School of Library Service; grants totalling $203,000 for the purchase and distribution of study material in the pictorial arts and in music; a grant of $98,300 to the Committee on Scientific Aids to Learning of the National Research Council; appropriations aggregating $300,000 to Princeton University, and grants of $50,000 each to Phillips Academy, Andover, to the American City Planning Institute, to Brookings Institution, Rockford College and Antioch College.

EDUCATIONAL RESEARCH AND STATISTICS

THE EFFECT OF NYA EMPLOYMENT ON THE GRADES OF MEN AND WOMEN IN COLLEGE[1]

STUDIES previously reported indicate that Federal Emergency Relief Administration and National Youth Administration employment results in higher rather than lower academic grade records. It was the purpose of this study to investigate the same problem, using groups matched for intelligence, age, sex, college class and curriculum.

F. C. Touton[2] studied the scholastic aptitude and achievement of FERA working students by comparing these two factors with a random sampling of the remainder of the student body. With 268 in the SERA group and 499 in the non-SERA group, he found that the SERA group averaged slightly higher in the aptitude test and tended to make slightly better grades than did non-workers. M. E. Wagner[3] and others compared the grades of 64 freshmen and sophomore NYA workers with equated groups of non-workers. Apparently NYA workers could engage in other remunerative activity and still be included in this study. Grade averages in both studies were slightly in favor of the working groups. In both studies it was concluded that the nature of the employment probably accounted for the superior grades of known working groups.

E. G. Williamson[4] compared 94 freshman NYA workers with an equated group and found a slight difference in grades in favor of the working students. He did not state if the subjects used for this problem were allowed to do other than NYA work.

METHOD OF EQUATING

From the NYA payrolls at the University of New Mexico for the semesters 1935–36(1), 1935–36(2) and 1936–37(1) lists were made of students who worked at least thirty hours per month for any semester. The first semester of each year included five months' work and the second semester four months' work.

These three working groups were equated with three non-working groups on the following

[1] The writer is greatly indebted to Dr. Philip H. Du Bois, of the University of New Mexico, for suggestions and assistance.

[2] Frank C. Touton, SCHOOL AND SOCIETY, 42: 269–71, August 24, 1935.

[3] M. E. Wagner and Others, SCHOOL AND SOCIETY, 45: 24–6, January 2, 1937.

[4] E. G. Williamson, SCHOOL AND SOCIETY, 46: 510–12, October 16, 1937.

points: intelligence (percentile rank on the American Council on Education Psychological Examination used by the University of New Mexico for all new students), age, sex, class and curriculum. No NYA student was used in this study who was engaged in other employment. While it was not possible to equate the two groups to where they were mathematically exact, the matching was carefully done and the differences were too small to effect the final results. The two groups averaged a little over twenty years of age and averaged over 60 for their percentile rank on the psychological examination.

The class load of the groups was not matched, as this makes another point for comparison between working and non-working students. Hotz and Trice[5] made a study of the relation of an abnormally heavy weekly schedule to grade point averages and concluded that certain students could be allowed to carry heavier class loads without lowering their grade average.

For statistical purposes the letter grades used at the University of New Mexico were given the following numerical values: A–6, B–5, C–4, D–3, I–2, X–2, F–1 and WF–1.

With the three equated groups comparisons of class loads and grade averages were made and the critical ratios of the differences computed. These comparisons were made both for total groups and for groups of men and women separately.

RESULTS

For the first semester (1935–36) it was found that NYA-working men carried practically as heavy an academic load as non-working men and that the former made a higher grade average than the latter. NYA-working women carried fewer hours of class work and made a higher grade average than the comparable group of non-working women. This difference in grade averages was not statistically reliable, however.

Second semester results for the same year showed NYA men workers with a heavier class schedule and NYA women with a lighter class schedule than non-workers. Both NYA groups tended to make better grade averages than non-working groups. Again the grade differences were statistically unreliable.

[5] H. G. Hotz and J. A. Trice, SCHOOL AND SOCIETY, 39: 422–24, March 31, 1935.

The third semester results were much the same as the first semester. The NYA men carried practically as many hours of class work as non-working men; NYA women carried a lighter class load than non-working women. The NYA group as a whole made a higher grade average than the non-working group, with NYA men accounting for all the gain.

SUMMARY

For the three semesters studied NYA men averaged a 16.09 class hour schedule, non-working men 16.07; NYA women averaged 15.45 class hours and non-working women 15.98 hours.

The NYA workers as a group, for the three semesters studied, made a higher grade average than did the non-working group. The difference in grade averages, while slight, is probably a true difference greater than zero. The group difference of 0.14 grade points was the most statistically reliable with a critical ratio of 3.35. The men with a difference of 0.30 grade points show a critical ratio of 3.12 and the women, with a difference of 0.03 grade points, show a critical ratio of only 0.46.

Assuming that better grades are synonymous with better class work, men NYA workers seem better able than women to carry outside employment and maintain an average class hour schedule with no lowering of grade standards.

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NEW BOOKS IN EDUCATION

Annual Report of the Superintendent of Schools, Chicago, 1937–1938. 535 pages. Illustrated. Board of Education, Chicago.

BENNETT, WILMA. *Occupations and Vocational Guidance; A Source List of Pamphlet Material.* Third edition, revised. Pp. 160. H. W. Wilson.

CENTER, STELLA S. and MAX J. HERZBERG. *Leisure Reading for Grades Seven, Eight and Nine, Graded and Classified.* Pp. 147. Illustrated. National Council of Teachers of English, Chicago. $0.20.

FRAMPTON, MERLE E. and HUGH G. ROWELL, Editors. *Education of the Handicapped; Vol. 1, History.* Pp. xii + 260. World Book Co. $2.40.

LAWLER, THOMAS B. *Seventy Years of Textbook Publishing; A History of Ginn and Company, 1867–1937.* Pp. xii + 305. Illustrated. Ginn. $3.00.

NORTON, M. D. HERTER. *Translations from the Poetry of Rainer Maria Rilke.* Pp. 245. Norton. $2.50.

RACKHAM, H., Translator. *Pliny, Natural History, Vol. I, Praefatio, Libri I, II.* Pp. xiv + 378 + 7. Harvard University Press.